OHIO STATE UNIVERSITY
MAR 2 1929
LIBRARY

FIRE ENGINEERING

A [illegible] of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

The Journal of the Fire Protection Profession

MARCH 20, 1929

Fabric **FIRE HOSE** Fabric

MADE LIKE AN AUTOMOBILE TIRE
IN TWO PARTS INNER TUBE *and* OUTER JACKET

Separable Inner Tube

—lasts longer than same quality tube cemented to the fabric because it is in complete repose when hose is not in service.

Will Not Slide or Buckle

—the diameter of the tube is reinforced in such a way as to eliminate it.

A Wax and Gum

treated fabric jacket—absolutely waterproofed by a special method. Cannot mildew or rot.

Other New Features—

The strands are "cabled" by a new process. The Durability of Fabric Hose is phenomenal.

FABRIC FIRE HOSE CO.
NEW YORK

ATLANTA
BOSTON
COLUMBUS
DALLAS
BINGHAMTON
BALTIMORE

MINNEAPOLIS
PORTLAND
SAN FRANCISCO
LOS ANGELES
NEWARK
PITTSBURGH

9-15 PARK PLACE
124-126 W. Lake Street, Chicago

FIRE WILL NOT WAIT

The FOAMITE Generator—for advanced fires in ANY material

You know the value of FOAMITE Extinguishers and Chemical Tanks to kill fires in blazing liquids under an airtight blanket of *Firefoam*. In over 1400 departments motor apparatus is equipped with the smaller units of FOAMITE Equipment for first aid attacks.

Fire Chiefs are discovering, too, that *Firefoam* has a real value in fighting more advanced fires, not only in oil, gasoline and other liquids, but in *any* kind of material. *Firefoam* puts out fire with minimum damage. It insulates against heat and smoke, decreasing fire punishment to your men. Wherever water damage is important, wherever fire punishment is severe, the FOAMITE Foam Generator, giving *practically unlimited quantities* of *Firefoam*, can be used to advantage.

The operation of the Generator is simple. You connect the Generator to a water supply—pour a *single* powder—FOAMITE Foam Generator Powder—into the hopper. Automatically, *Firefoam*, the highest quality of fire-smothering foam, is discharged. The quantity of *Firefoam* is limited only by the supply of powder and the availability of water. The Generator is easily portable. It is compact for convenient carrying on the running board.

Our booklet "Modern Fire Fighting Methods" describes this and other units of FOAMITE protection for fire department use. For your copy, write American-LaFrance and Foamite Corporation, Engineers and Manufacturers, Dept. A29, Elmira, N. Y.

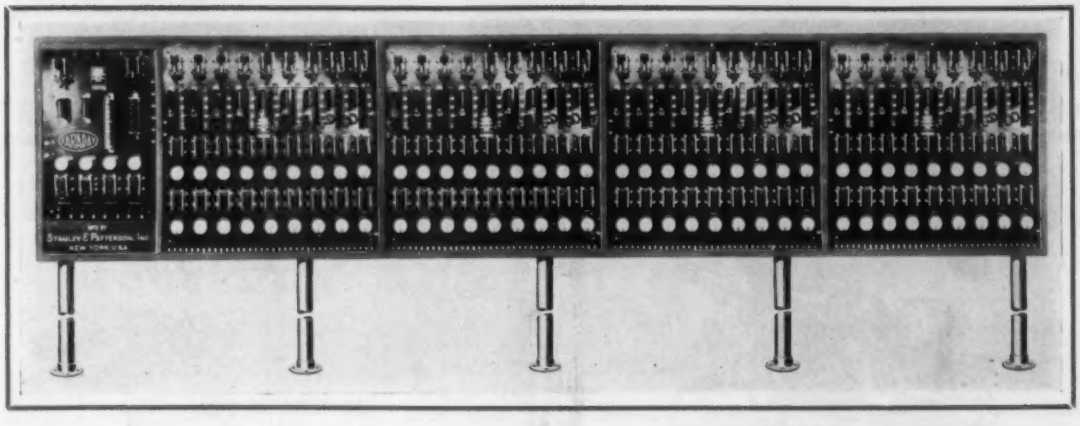
AMERICAN-LAFRANCE AND FOAMITE PROTECTION

A Complete Engineering Service

For Extinguishing Fires

N. Y. Central Building Fire Alarm Control Board

One of the Largest Fire Alarm Control Boards Ever Installed



The Fire Alarm Control Board pictured above is an outstanding example of our work in this field.

This board controls no less than 36 separate and distinct systems. These systems are ingeniously interlocked in such a manner as to permit the summoning of the Building Fire Brigade or the sending of individual floor alarms, or the sounding of a general alarm, as may be desired.

TRADE FARADAY MARK

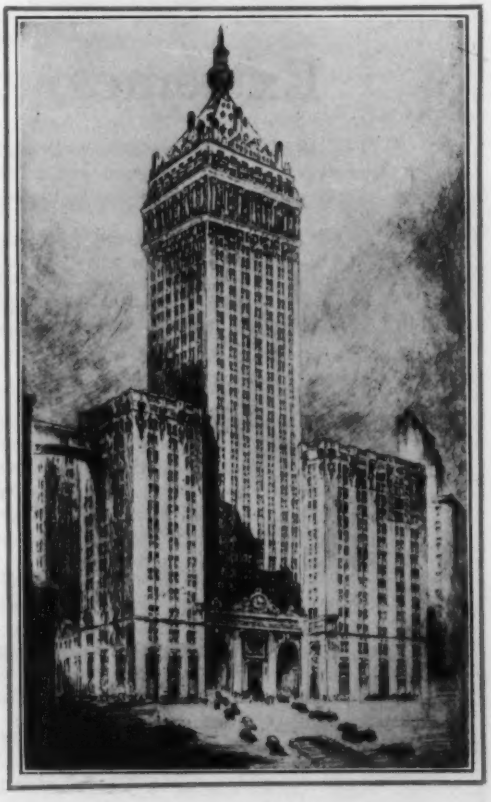
We cordially invite you to write us regarding Faraday Fire Alarm Systems and Apparatus. Ask for Catalogs Nos. 46 and 47, Covering Faraday Industrial and Municipal Fire Alarm Systems and Apparatus.

"The Best That Money Can Buy"

Stanley & Patterson

Incorporated—Established 1884

150 Varick St., New York



Manufacturers of Electrical Signaling Apparatus of Every Description

The Journal of the Fire Protection Profession Since 1877

MEMBER
Audit Bureau of Circulations
Assoc. Business Papers, Inc.

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

Published Every Other Wednesday

SUBSCRIPTION PRICE
U. S. $3 a year; Canada $3.50
Foreign $4; Single copies, 25c.

Issued at Lyon Block, Albany, N. Y.
by CASE-SHEPPERD-MANN PUBLISHING CORP.

Also publishers of "Water Works Engineering," Technical Books, etc.

Executive, Editorial, Advertising and Subscription Office
225 West 34th Street, New York City

All communications, including Editorial, Advertising and Subscription can be directed to either of the above addresses.

KARL M. MANN, President and Advertising Director
FRED SHEPPERD, Managing Editor
I. HERBERT CASE, Vice-Pres. and General Manager

H. S. ESSEX, Advertising Manager; ROBERT H. LOCKWOOD, Editor; N. N. WOLPERT, Asst. Editor

HAROLD T. MURRAY, Western Manager, 30 No. Michigan Ave., Chicago, Ill. Telephone Franklin 0138

EDITORIAL ADVISORY BOARD

JOHN KENLON, Chief, New York Fire Dept., Founder of New York Fire College
JOHN C. MORAN, Chief, Fire Department, Hartford, Conn.
GEO. J. KUSS, Former Deputy Chief N. Y. F. D.; Lecturer on Fire Fighting, Delehanty Institute, N. Y.
A. A. BELL, Chief of Fire Brigades and Engineer "America Fore" Group of Fire Insurance Cos.

Extremes

YOU needn't dash recklessly through crowded streets nor need you move so slowly and conservatively as to impede traffic.

¶ (This morning we saw a ramshackle old Ford stop at the corner of Fifth Ave. and 34th St. to discharge a slow-moving passenger, while a big Fifth Ave. bus and a whole string of blocked vehicles tooted frantically to get by.)

¶ There's a happy medium of conservative progress we all aspire to; and the constant endeavor of this publication is to give you, both through its editorial and news columns and through its advertising pages, the sort of information that will be helpfully constructive *and safe*.

¶ You read it, Mr. Subscriber, and you advertise in it, Mr. Manufacturer, because you know these principles to be sound. It is a constant pleasure to meet you all on this basis of mutual helpfulness and confidence.

The Publishers

CONTENTS

VOL. LXXXII No. 6

MARCH 20, 1929

Pensions, Compensations and the Law, by Leo T. Parker 227
Various Phases of the Law on These Questions, as Interpreted by the Higher Courts.

Bad Fire from Overturned Gasoline Truck, by Wm. E. Patterson (Illustrated) 229
Upsets on Rounding Corner at High Speed, and Burning Gasoline Ignites Two Buildings.

The Round Table 231
What Methods Do You Employ for Reducing Accidents to Fire Apparatus Answering Alarms? (Continued).

What Should Modern Rules Include? 233
Rules for Master Mechanics and Superintendents of Machinery or Repairs—Eleventh of Series.

With the Editor 235
Comments on Current Events and Live Topics by Our Editorial Staff.

Questions and Answers 237
Replies to Questions on All Manner of Subjects of Fire Fighting and Fire Protection.

Recent Important Fires Specially Reported (Illustrated) 239
Tent Automobile Exposition Burns at Los Angeles, Cal., With Heavy Loss—Burnings of Two Weeks.

Fire Department Activities 249
Newsy Notes from All Over the Country with Matters Firematic.

Fire Department Improvements 250
Record of Business Activities in the Fire Protection Field.

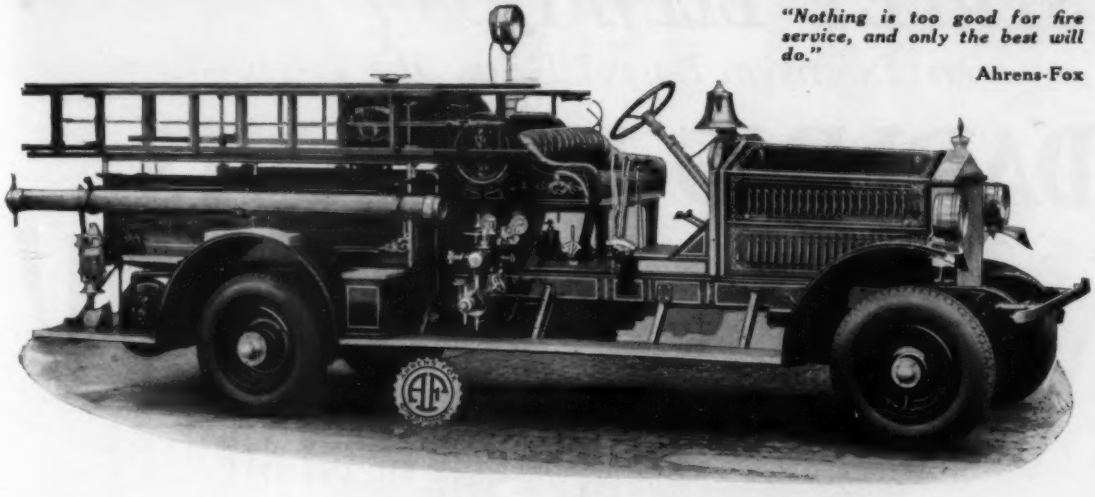
Of Interest to Volunteer Fire Departments 253
Matters of Importance to Volunteer Firemen.

False Alarms 254
The Humorous Side of the Fire Protection Profession.

Contents of this issue copyrighted, 1928, by the Case-Shepperd-Mann Publishing Corp., 225 W. 34th St., New York City.
Entered as second class matter at the Post Office, Albany, N. Y.
January 29, 1926, under the Act of March 3, 1879

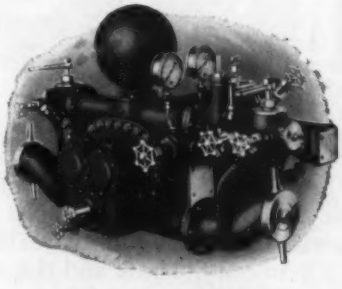
"Nothing is too good for fire service, and only the best will do."

Ahrens-Fox



Ahrens-Fox *Rotarystyle* Pumpers Are Not Only Different—But Very Much Better

A really outstanding development in rotary type pumpers. The product of years of experimenting, research and exhaustive tests. They introduce many striking and very important improvements in design and construction. Unsurpassed in performance except by the famous and larger capacity Ahrens-Fox piston type pumpers.



New, rotary type, highly efficient, pumping unit.

Prices are low so every city regardless of size can now have adequate protection with high quality Ahrens-Fox pumping apparatus. They more than meet all modern fire fighting requirements. Sturdy, efficient, and unfailingly reliable.

You Can Get Ahrens-Fox Apparatus for Every Modern Fire-Fighting Need

Whenever you plan the purchase of new apparatus, be sure to write us for complete information on Ahrens-Fox equipment, and give the facts careful consideration before you decide what to buy.

We build piston and rotary type pumpers, triple combinations, aerial trucks, city service trucks, hose wagons, tractors, etc., of all sizes to meet the various needs of cities and towns of all sizes.

Would You Like Complete Information Now?

The Ahrens-Fox Fire Engine Co.

"Builders of Quality Fire Apparatus"

Cincinnati, Ohio

Eastern Representative
J. A. PRESCOTT
Fisk Bldg., New York

New England Representatives
CARLOW AUTO CO.
Tauton, Mass.

Chicago Representative
HENRY R. EARLY
Hotel Woodmere,
4641 Woodlawn Ave.

Southwestern Representative
J. ED. SCHMITZ
3600 Commerce St.,
Dallas, Texas

California Representatives
PACIFIC FIRE EXTINGUISHER CO.
San Francisco, Cal.

Pacific Northwest Representatives
A. G. LONG CO.
Portland, Ore

Canadian Representatives
THE BICKLE FIRE ENGINE CO.
Woodstock, Ontario

STREET ELEVATION?

– – An Extension Barrel Below the Valve – and –

DARLING HYDRANTS RISE TO THE OCCASION!

DARLING

FIRE HYDRANTS

As the city develops—and low streets are raised to the level of others—the Darling hydrants rise with the tide of prosperity. No new hydrants need to be installed. An extension barrel, which is really an upward extension of the base, is placed between the base and the main barrel containing all of the operating parts.

And many other features—A compression type valve is used in order to check the loss of water even if the barrel is broken.

The valve is of leather and tapered to fit the bronze seat, permitting a slow closing of the hydrant without water hammering.

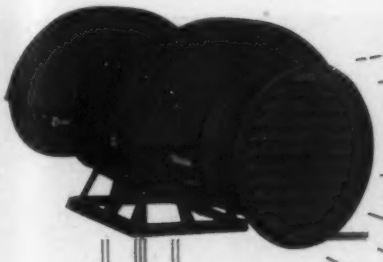
The drip valve for the barrel opens as the main valve closes. The entire interior mechanism can be taken out through the top of the hydrant for inspection, thus eliminating the need for excavation every time an inspection is made. The main valve opening is approximately the same size as the hose nozzle in order that the pressure will be the same at the nozzle as in the main.

Darling Valve & Manufacturing Co.

Williamsport, Penna.

New York Chicago Oklahoma City Houston

Please mention FIRE ENGINEERING *when writing advertisers.*



"You Are Needed"!!!

Says The Sterling Model M Siren to Your Off-Duty Firemen

An alarm of fire! . . . your apparatus goes speeding to the scene . . . your men start to work. But, perhaps the fire got a fast start before you arrived and smoke and weather conditions make it a stubborn one to fight.

It isn't long before the men who started in have taken about all the punishment they can stand. Reenforcements must come . . . fast! How are you going to get them?

It makes no difference whether your fire department is a small volunteer one, a medium-sized city partly paid one, or a large city fully paid department with various platoons off duty, the efficiency of that department depends on your ability to get those valuable off-duty firemen.

Many towns rely upon the Sterling Model M Siren for this purpose. The second-alarm call tells the off-duty men they are needed and they start for the scene immediately. No time is lost, and the losing tide of battle is turned into victory.

You, too, need the Sterling Model M Siren for this purpose. You can never tell when such a fire will visit your town. Be prepared, and receive the congratulations of the citizens.

Your first step is to write today for complete information.

The Sterling Model M Siren is the most efficient sound distributor made. The only weather-proof siren on the market, it can be depended upon regardless of the elements.

Driven by a 5-horsepower motor, its double rotors have the largest over-all dimensions, the highest speed, the greatest air displacement of any siren. Any number of Sterling Sirens can be operated together to cover the largest community and operated from central headquarters over fire alarm control circuits.

STERLING SIREN FIRE ALARM CO., Inc.
61 Allen Street Rochester, N. Y.

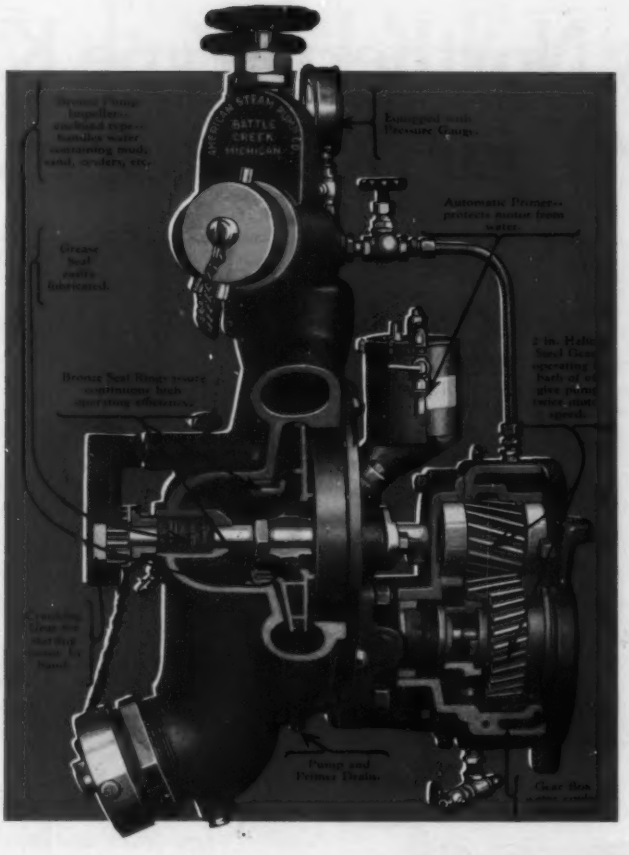
STERLING SIRENS

Fire Fighters at Ease

Well groomed men to handle well groomed apparatus. Comfortable, well dressed fire fighters; a department to be proud of—in keeping with shining, polished equipment. Signal Shirts are specially tailored as uniform shirts. Start right by selecting one of the several collar attached or two-collar styles (either soft or laundered). Standardize on Signal Shirts as so many of the big city departments have done. Signal Shirts are *really* and *honestly* better. The fit, cut and patterns are up to the minute. That has a lot to do with morale, hasn't it! Think about that a little, and also that Signal Shirts are made of Signal TubTesT cloths (color fast) in 10 dressy patterns, and are famous for long service and good tailoring. In other words, more for the money, plus a better looking, better satisfied department. Send for samples.

Signal

SIGNAL SHIRT COMPANY
Racine, Wisconsin



You've Heard a Great Deal About this Fire Pump, *Now*—

STUDY for a moment its design and construction as revealed by the sectional view above. Note that it is a centrifugal pump, handling water from either hydrant pressure or suction. Note water cooled gear box, automatic primer, and bronze seal rings.

Without question, here is the finest fire pump in its class. Yet, due to greater simplicity of design plus improved production methods, the Barton is by far the lowest priced. A quotation will convince you.

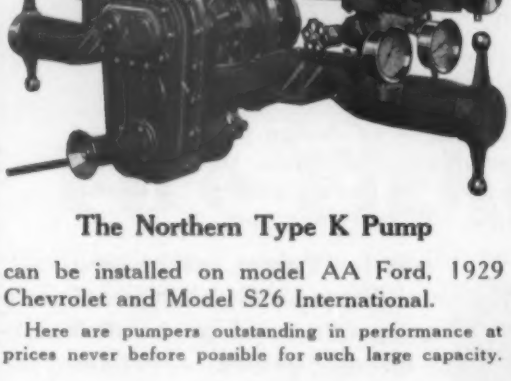
Pump is mounted on front as shown.

Barton Pumps can be used with practically all types of apparatus, and are handled by all leading apparatus people. Consult with any one of them, or write us direct for Bulletin 60.

AMERICAN STEAM PUMP COMPANY
BATTLE CREEK, MICHIGAN

BARTON
FIRE PUMPS

Specify Northern Type K Pump For Your 300 Gallon Job



The Northern Type K Pump

can be installed on model AA Ford, 1929 Chevrolet and Model S26 International.

Here are pumpers outstanding in performance at prices never before possible for such large capacity.

ABOVE is pictured Ford Model AA fire truck as furnished by The General Mfg. Co., St. Louis, Mo., one of the fire apparatus manufacturers licensed to install Northern Rotary Pumps.

300 Gallons Capacity Guaranteed

The following figures are taken from the report of a 12-hour Underwriters Test conducted by the National Board August 7, 1928.

Capacity	Pressure	Engine Speed	Pump Speed
304	123 lbs.	1618	1090
152	202 lbs.	1710	623
102	255 lbs.	1290	470

If you need a new pumper and cannot afford a 500 gallon job—the Northern Type K Pump will solve your problem.

Write for complete information and names of Fire Apparatus Manufacturers licensed to install Northern Rotary Pumps.

NORTHERN ROTARY PUMPS

"MORE GALLONS PER HORSE POWER"

NORTHERN PUMP CO.

MINNEAPOLIS, MINNESOTA, U.S.A.

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Journal of the Fire Protection Profession

VOLUME LXXXII MARCH 20, 1929 NUMBER 6

Pensions, Compensations and the Law

Various Phases of the Law on These Questions, as Interpreted by the Higher Courts—Some Important Decisions

By LEO T. PARKER, Attorney-at-Law, Cincinnati, Ohio

Subjects Treated in This Article

Case of Fireman Totally Disabled by Disease.

Injury or Death through Firemen Obeying Orders.

Bravery or Risk Assumed by Firemen Does not Reduce Liability of Party Causing Injury.

Law Different with Respect to Common Citizens.

Amount of Retirement Pension.

When Reinstatement of Discharged Fireman is Compulsory.

When Municipality is Liable for Discharging Fireman.

FREQUENTLY, litigation develops over the legal construction of the term "in the service of the city," often appearing in city charters and municipal ordinances.

It is important to know that while an ordinance must conform with the legal interpretation of the charter, yet the ordinance is valid although it contains terms explanatory of the charter.

For instance, in Tripp vs. Board of Fire and Police Pension Commissioners of city of Fresno, 271 Pac. 795, it was shown that a city charter provides:

"The City Commission shall by ordinance provide for and establish a fund or funds for the relief and pensioning of members of the Police and Fire Departments who have been disabled or become superannuated in the service of the city, and shall provide for the administration of such fund or funds."

The city ordinance provides a pension for any fireman who "shall become physically disabled by reason of bodily injuries received in, or by reason of sickness caused by, the discharge of the duties of such person."

Case of Fireman Totally Disabled by Disease

A fireman, who was totally disabled by a disease of the spine, filed a petition alleging that he had been a regular member of the fire department of the city of Fresno from 1918 to 1927; that, under the terms of the city charter and ordinance passed in pursuance of the charter, he was entitled to a pension because his duties as a fireman exposed him to smallpox in the neighborhood of the firehouse to which he was assigned in 1924, and exposed him to influenza in 1925 and again in 1927, both of which diseases he contracted. He testified that by reason of having contracted these diseases he was rendered physically unable to discharge his duties as fireman.

Also, the counsel for the fireman contended that the ordinance is invalid because it illegally limits the payment of pensions to firemen who are disabled while "discharging their duties," whereas the city charter provides that pensions shall be paid to all firemen who have been disabled "in the service of the city."

However, the higher Court held that a fireman is not entitled to a pension for disability caused by sickness, unless it is proved that he contracted the disease while actively discharging his duties as a fireman. This Court said:

"The testimony showed his disability was caused by a hypertrophic attack of arthritis of the spine, and the Court evidently took the view that it was caused by focal infection of the teeth or tonsils or by causes having no relation to or bearing upon his occupation or duties as fireman . . . The language in the charter must be interpreted in its ordinary meaning and in accordance with the legislative intention. The contention is for an interpretation which would entitle a fireman to be retired upon a pension for permanent disability caused by sickness having no relation whatever to his employment, because disabled or superannuated while in the service. Such a radical departure from ordinary pensioning laws is not to be assumed to be the legislative intent without direct language to that effect. 'Disabled in the service of the city' is properly understood to mean 'disabled by reason of bodily injuries received in, or by reason of sickness caused by the discharge of the duties of such person.' 'Superannuated in the service of the city' is properly understood to include the age one acquires during his daily off duty periods as well as his hours of labor."

Also, it is interesting to observe that in the leading case of State vs. Board of Trustees, 184 S. W. 929, the expression "while in such service" was held not to mean "while a member of the fire department." Therefore, where a fireman was killed while off duty, his widow was not entitled to a pension under the laws.

When Fireman Obeys Instructions

On the other hand, it is important to know that any injury, resulting from a fireman obeying the instructions of his superior, is held to "arise out of the employment" which is equivalent to an injury caused by "discharging his duties" as a fireman.

For illustration, in American Co. vs. Michalski, 164 N. E. 123, the dependents of an employe sued to recover compensation for his death caused by a tornado which blew in a door that he was attempting to close in obedience to orders given by a superior.

In holding the employe's dependents entitled to compensation, the Court said:

"We hold that where, during a tornado, an employe is directed to go to a place of increased danger and while obeying such order is injured by such tornado, such injury constitutes an accident arising out of his employment."

Bravery or Risk Assumed by Firemen Does Not Reduce Liability of Party Causing Injury

A higher Court in the recent case of Smith vs. Twin State Gas & Electric Co., 144 Atl. 58, rendered a decision that should prove unusually interesting to all members of fire departments.

The facts of this case are that a leak in a gas main under a highway caused gas to escape and enter a drain pipe from some catch basins. The gas arose and passed into the air. There was nearby an underground telephone conduit which contained ducts in some of which were cables and others of which were empty. The conduit led to the basement wall of a building, and the ducts were carried through the wall. Some of the escaped gas entered this conduit and became pocketed in the ducts as far as the plugs on the inside of the wall of the building. Mixed with the air therein, it formed a dangerous explosive.

A police officer called the fire department chief's attention to the fact that gas was escaping in the highway. The chief requested the officer to ask the janitor of the building, to which

the telephone conduit led, to let him know when he would be at the building. Later the chief went to the building, and with the janitor entered the basement to investigate. While examining the ends of the telephone ducts on the wall and testing for the presence of escaped gas, the mixture of gas and air in the ducts exploded and one of the plugs flew out and struck him with fatal effect.

The dependent of the chief filed suit against the gas company for damages, contending that the employes of the latter were negligent in failing to repair the leak.

The gas company attempted to avoid liability on the contention that a fireman is not entitled to damages for injuries sustained while performing his duties because he realizes the hazards and risks assumed when he accepts the employment.

In holding that the risks assumed by firemen does not bar a recovery of damages from persons negligently causing the injury, this Court said:

"Exceptional situations may properly call for exceptions to general legal doctrines, and contributory negligence is not invariably and without exception a defense in actions for negligence . . . When there is a legal duty, as here, to perform the act, it is not to be said that performance of the duty is negligence which will bar recovery. . . . Seasonal repair of the leak would have avoided his entry into a dangerous situation, while the defendant's (gas company's) careless delay in a natural and proximate way led to his entry and the ensuing circumstances culminating in the explosion. . . . The life of the fireman is an heroic one. . . . It is contemplated that he shall fight all fires however caused and run the risk of injury from what may be expected to be encountered in so doing. But in reason it is not contemplated that he shall have no protection against dangers not fairly to be expected or not incidental to his work. Clearly he may recover for negligent intervention if injured thereby while engaged in his service. . . . If it may be said to be within the contemplation of his contract of service that a fireman fights a fire whatever the condition of the premises where his work takes him as well as however the fire is caused, and that he may fairly expect to meet incidental dangers of which he is in ignorance, it is not the situation here where the danger was in the lurking gas which was the subject of investigation. . . . Hazard of explosion and hazard from the situation in which it took place were not the same. . . . Testimony that after the explosion the defendant (gas company) at once put on a crew of five men to locate and repair the leaks in its pipes was excepted to. . . . Obviously the fact that a number of men were set to work had nothing to do with the conditions found. And as it had already appeared that no repairmen had been working elsewhere on the day of the explosion, which occurred in the evening, evidence that they worked after the explosion became substantially immaterial for the purpose of showing prior availability. Evidence of subsequent repairs not being competent to show negligence, it should not be used for other purposes incidentally in issue unless the reasons therefor are counterbalancing."

Chief Kenlon Forty-Two Years in Fire Department

John Kenlon, head of the New York Fire Department, recently observed his forty-second year as a member of the department. He celebrated it in his customary way—by reporting to his office in the municipal building for duty. The passing years have been kind to Chief Kenlon and it is hard to believe that he has seen such long service in New York City. During that time he has built an enviable reputation as a scientific firefighter and a fire department leader.

Law Different With Respect to Common Citizens

Therefore, it is established that a fireman is entitled to a pension from a municipality for injuries arising from his employment, although he failed to exercise care to prevent the injury. Also, a fireman is entitled to damages from a property owner whose negligence caused the injury.

However, the law is quite different with respect to citizens who are injured while voluntarily taking risks ordinarily assumed by firemen.

In other words, a third person who voluntarily assumes a hazardous position never is entitled to damages for the injuries effected by a fire department, irrespective whether the firemen who cause the injuries are performing governmental functions, or otherwise.

For example, in Grassie vs. American, 272 Pac. 1073, it was disclosed that a fire department required new fire engines. Some of the citizens had suggested to the officers of the fire department that two fire engines would be required for adequate protection. The fire department was opposed to the purchase of two engines, claiming that one engine placed as nearly in the center of the district as possible would afford ample fire protection. To determine the question, a deputy chief of the fire department arranged with the American LaFrance Fire Engine Company to take a fire engine, such as the district intended to purchase, to make test runs with it from the central portion of the district to the outlying territory. The fire engine was to be run on these tests at the same rate of speed that fire engines ordinarily travel in going to a fire. Pursuant to this arrangement, the American LaFrance Fire Engine Company sent a fire engine to make a test. The citizens' committee selected a citizen named Grassie to ride on the engine during the test run. During the run the engine collided with a telephone pole, instantly killing Grassie. His dependents sued to recover damages. However, the Court refused to allow a recovery, saying:

"One who, for the purposes of his own, voluntarily places himself in a position of danger, assumes the risks ordinarily incident to such a position, and must exercise a quantum of care commensurate with the additional danger. . . . We are unable to find in the record any evidence that any of the agents or employes of the fire engine company invited deceased to become a passenger on this fatal run, . . . Mr. Grassie knew that the engine was going to make a run just the same as if it was going to a fire; he also knew that fire engines going to a fire traveled at a high rate of speed, and he knew the condition of the streets over which the run was to be made. Notwithstanding all these facts, Mr. Grassie voluntarily assumed the dangerous position of a passenger on this fire engine on this test run. Under these circumstances, we hold that Mr. Grassie assumed the risk ordinarily incident to that dangerous position, irrespective of his status, and the fire engine company was not liable for any injury sustained by him arising from the risks ordinarily incident to the dangerous position which he had voluntarily assumed. Manifestly, a passenger upon a fire engine going to a fire is not in a safe place. It was therefore incumbent upon Mr. Grassie, in the exercise of the due care which the law always exacts, to take greater precautions for his own safety than if he were a passenger in an ordinary automobile. Upon the other hand, the fire engine company was only under obligation to run at the same rate of speed and use the same degree of care and caution that fire apparatus usually run and operate in traveling to a fire."

Amount of Retirement Pension

Another important point of the law is that a fireman, who is retired with a pension based by law upon a percentage of his annual salary, is not entitled to an increase of the pension although the salary of firemen in active duty is raised.

For instance, in Sup vs. Cervenka, 163 N. E. 396, it was disclosed that a man, named Charles J. Sup, served as an active member of the fire department of the city of Chicago from January 3, 1917, until January 1, 1924. While engaged in extinguishing a fire on December 25, 1922, he suffered a broken nose, arm, and leg. As a result the board of trustees of the

(*Continued on page* 241)

Wrecked and Overturned Gasoline Truck Which Caused the Fatal Fire At Pittsburgh, Pa., Through the Ignition of Its Contents, After It Had Overturned on Rounding a Corner At Reckless Speed

Truck Overturns—Starts Bad Fire

Upsets at Curb, on Rounding Corner at High Speed, and Burning Gasoline Ignites Two Buildings—Two Men on Truck Killed

By WILLIAM E. PATTERSON, Bureau of Fire, Pittsburgh, Pa.

AN unusual fire, illustrating the hazard of transporting large quantities of inflammable liquids through the public streets, occurred at Pittsburgh, Pa., on Sunday, February 3, at about the noon hour. This was caused by a gasoline tank truck loaded with fifteen hundred gallons of high grade gasoline, which was traveling at a high rate of speed, striking the curbstone while turning into Liberty Avenue from Water Street in the lower downtown business district and overturning. The contents at once ignited and formed a wall of flame across lower Liberty Avenue which swept up over and into a row of two story brick buildings on the east side of this avenue, causing damage of approximately $30,000 before the flames were brought under control by firemen called on three alarms. For a time the fire created a serious situation and threatened to do immense damage. Two men riding on the truck were burned to death.

The truck, a new 3½ ton Mack, with steel wheels and pneumatic tires, the property of the American Oil Company, was enroute from their distributing station on the North side with a load of gasoline for delivery at a filling station in another part of the city and had just come across the Manchester Bridge over the Allegheny River and down the long ramp leading from the bridge to Penn Avenue and Water Street. According to eye-witnesses, the truck was traveling at a high rate of speed when it struck the level part of Water Street between the lower end of the ramp and Liberty Avenue, a distance of one short block and when the driver attempted to turn off Water Street into Liberty Avenue, which thoroughfare is eighty feet wide at this point, the truck struck a traffic light pedestal in the middle of Liberty Avenue at Water Street, knocking it slightly out of place, then struck an iron sewer drop and finally the curb in front of the Gulf Refining Company's service and filling station on Liberty Avenue at the corner of Water Street. Jumping the curb and continuing its mad flight up Liberty Avenue partly on the sidewalk for at least one hundred feet and back onto the street where it overturned and the contents ignited and burst into a sea of flames. When the truck finally came to a stop it was turned clean around and was headed down Liberty Avenue.

Two Men on Truck Meet Horrible Death

The truck was in charge of John Edward O'Brien, while William M. McGlaughlin, also an employe of the American Oil Company, was riding as a passenger on the truck. Both men were thrown from their seats into the street as the truck overturned. The contents ignited from the crash and flames instantly spread over a large section of the street, enveloping the bodies of both men, which were burned in a most horrible manner by the flaming gasoline.

Employes of the Gulf Refining Company's service and filling station rushed out with fire extinguishers and attempted to clear a path through the flaming gasoline to the burning men, but were driven back by the intense heat when the fluid in their extinguishers became exhausted.

By this time the truck and two story brick building occupied by the Anchor Tire and Battery Company and the Pittsburgh Brake Company, as well as the upper end of the Gulf Refining Company's service and filling station were enveloped in flames and it was impossible to attempt to reach the two men in time to save them from the terrible death they met.

The body of O'Brien, like that of McGlaughlin, burned beyond recognition, was pulled away from where it was lying in the street with a pike pole by Battalion Chief William M. Graves and a fireman. McGlaughlin's body, which was laying close along side of the burning truck, were recovered later by firemen, after the flames were subdued. Both bodies were removed to the morgue.

Quick Work Needed to Save Other Buildings

Firemen arriving on the first alarm found a hard job confronting them which demanded quick work on their part to stay the tide of burning gasoline that was now making its way down Liberty Avenue towards Water Street and the Monongahela River bank. Some of it did flow into the sewers, where it ignited sewer gas and blew a number of sewer drop lids into the air.

By quick work, the firemen under the direction of Chief Richard L. Smith and his Deputy and Battalion Chiefs, with several powerful streams of water, succeeded in dissolving the flaming streams of gasoline driving it back from the sewer drops and keeping it from causing any further damage to surrounding property. The gasoline truck and the two story brick buildings on Liberty Avenue which ignited, were practically doomed for destruction when the first firemen arrived on the scene.

During the progress of the fire a quantity of carbide in cans which was stored in one of the burning buildings ignited causing

several sharp explosions. A larger amount in an adjoining building facing on Water Street was saved by the firemen.

Three Alarms Sounded

Three alarms were sounded for the fire from Fire Alarm Station 7, calling to the scene twelve Engine Companies, one Squad Company and three Truck Companies, the first alarm at 12:11 p. m. being answered by Engine Companies Nos. 19, 1, 32, 18 and Squad Company No. 1 and Truck Companies Nos. 1 and 3 in command of Battalion Chief William Graves of the First Battalion and Deputy Chief Frank C. Loxterman. The second alarm at 12:21 p. m. was answered by Engine Companies Nos. 30, 33, 2 and 47 and Truck Company No. 47 and Chief Smith and the third alarm at 12:23 p. m. by Engine Companies Nos. 11, 3, 4 and 42 in command of Battalion Chief Saul Klein, of the fifth Battalion.

While it has not been definitely determined just what caused the gasoline to ignite when the truck overturned, several theories have been advanced, the most plausible being that the impact of the truck with the street caused a spark that ignited the gas.

Only Part of Gasoline Burned

After the fire was practically extinguished and the truck was righted on its wheels by firemen, it was found that the two forward compartments of the tank directly in the rear of the driver's cab had been ruptured, the contents of which was consumed by the flames.

The tank truck had a carrying capacity of fifteen hundred gallons of gasoline, the maximum amount allowed by city ordinance, the tank being divided into five compartments, the largest one holding four hundred gallons and the smallest one, two hundred and fifty gallons. The contents of the three

The Wrecked Gasoline Truck After It Had Been Righted

remaining compartments remained intact and did not ignite from the intense heat generated by the burning gasoline, which completely enveloped the truck after it overturned.

Fortunate Accident Happened on Sunday

It was most fortunate that the accident, bad as it was, occurred on Sunday, rather than on any other day of the week and in this particular locality, rather than in a more congested section of the city.

The district in which the accident took place is in the extreme lower end of the downtown business district warehouse center, which is practically deserted on Sunday, while during the rest of the week, especially during the morning and evening rush hours, Liberty Avenue is a busy thoroughfare, connecting just one block above the place of accident with the Boulevard of the Allies, one of the most congested thoroughfares in the city.

Had the accident occurred during business hours, when one side of Liberty Avenue is lined with parked machines and traffic is more or less heavy, no doubt the loss of life would have been much heavier and property loss far greater.

Alpha, Pa., Wants Fire Apparatus—Alpha, Pa., on the outskirts of Phillipsburg, has asked for new fire apparatus.

Chief of Edmonds, Wash., Honored—Chief A. B. Bently of Edmonds, Wash., who retired from the service, was given a farewell dinner and presented with a beautiful gold watch, chain and knife. He was a member of the department for fourteen years, and during this period he was chief for nine years.

New York Issues Fire Report

Fire Commissioner John J. Dorman has announced the receipt of a report from Chief John Kenlon for the year 1928 which shows that the fire losses for last year have decreased $2,632,834 in the face of an increase of 1,608 in the number of fires. The reported losses for 1928 amounted to $16,624,381. The number of fires was 25,949.

Losses in Manhattan were $6,993,970, a decrease of $2,338,045 under the year 1927; the Bronx showed an increase of $337,905 or a total of $1,709,030 for the year; Richmond losses amounted to $281,766, a decrease of $1,022,624; Brooklyn losses totalled $5,794,410, an increase of $489,160 and Queens losses dropped $99,230, or a total of $1,845,205 for the year 1928.

The 1928 losses were $3,013,534 less than the total losses by fire and water five years ago—1923.

The department maintained its customary record of confining 89% of all fires to the point of origin. The loss per capita last year was $2.76, a decrease of fifty-four (54) cents under 1927, while the fires per hundred buildings last year were 4.31, an increase of .53. The fires per thousand of population last year were 4.31 as against $4.08 in 1927, an increase of .23.

Although there were 25,949 fires, there were actually 33,099 alarms of fire of which number 7,150 were false. There were 15,339 fires in buildings, an increase of 624, of which 1,810 were in stores, 7,111 were in tenement houses, 3,161 were in other dwellings, 1,519 in factories and 10,610 outside of buildings in lots, streets, fences, automobiles on the highway, etc.

The fire fighting force used a total of 86,011,490 gallons of water in their work. The Brownsville section of Brooklyn had 1,301 fires—the most during the year; the second largest number was in the 15th battalion district which embraces the northerly section of the Bronx. The east side of Harlem, Yorkville and the hotel-theatre districts were next in the order named for fire fighting activity.

There were forty-one arrests on charges of arson, a decrease of thirty-five under the year 1927. There were also twenty-four convictions, a decrease of seventeen, although the number of convictions in 1928 was four per cent better than the results obtained in 1927.

WM. JEROME DALY.

Webster, Chief of Willimantic, Conn.

Wade V. Webster has been appointed chief of the fire department at Willimantic, Conn., to fill the position made vacant by the resignation of Chief Henry J. Kelly. Six months ago, Chief Kelly was granted a leave of absence due to illness, and at the expiration of this leave, he presented his resignation.

Chief Webster has a fire-fighter's career that dates back to the early volunteer department days. He was a member of the Alert Hose Company, then became foreman, and was finally made chief. It was largely due to his efforts that the two-platoon system was established in Willimantic. He served as president of the Connecticut State Firemen's Association, and is a member of the Connecticut Fire Chief's Club. Chief Webster is well known in state fire department circles.

New Fire House Opened in Chicago

The opening of a new fire station in the eighteenth ward of Chicago was officially observed by a parade in which several thousand children participated and which was headed by Mayor William Thompson and his retinue.

The new station houses Engine Co. No. 129 and Truck No. 50. News reel photographers recorded the official opening.

The West Auburn Business Men's Association presented the firemen with a radio set and a complete kitchen outfit. Following the ceremonies, city and fire department heads attended a luncheon arranged by the district.

Taft to Bid for California Convention

Delegates to the California State Firemen's Association from Taft, Cal., were instructed to try to have the 1930 convention meet in Taft.

At a meeting of the West Side Fire Fighters' Association composed of firemen in Taft, Maricopa, Fellows, Ford City, McKittrick, and South Taft, Battalion Chief Charles F. O'Neil of Los Angeles was the principal speaker. He explained the bills that are now before the legislature for the protection of fire department employees. The meeting was held in Maricopa with Chief R. J. Eply as host. The next meeting will be held in Ford City with Chief William O'Dell as host.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

SO many discussions have been contributed to the first problem treated in the round table, a new feature of FIRE ENGINEERING, that it has been necessary to print it in two installments. This is the second and concluding section.

Many chiefs have a slogan that sums up the entire situation. It would be very effective if it was posted in each fire station. The phrase is:

"It is better to arrive at a fire a little late than to jeopardize the lives of the men and the safety of the apparatus."

Nothing could be more expressive. Safety first! The men responding with the apparatus should not be sacrificed because of a desire to better a speed record. Fire apparatus is too dangerous and too heavy to be used for racing purposes.

The problem treated in this issue is printed in full on this page. In the box on the following page is the problem that will be discussed in the next issue. Should you have some comments that you would like to make on the forthcoming question or if you have a problem that you would like to see treated in this department, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 225 W. 34th St., New York, N. Y. There are no "buts" to this offer.

Here is the Problem

What methods do you employ for reducing accidents to fire apparatus answering alarms?

The Problem

Many communities report a reduction in accidents since precautionary measures have been taken. The replies received follow:

Eugene T. Ricker, Chief, Biddeford, Me.: While there is no set speed limit for fire apparatus in this city, governed either by local laws or ordinances, the following methods are employed to reduce the number of accidents to a minimum:

We have fire sirens located at each of the most dangerous corners. When a fire alarm is received at headquarters, the man at the patrol desk immediately puts the sirens into operation on the route the apparatus is to respond. In this manner traffic is brought to a standstill, pulling as near as possible to the right hand curb. Street cars also stop immediately at a position that will allow sufficient space for the apparatus to pass. After the apparatus is far enough away to insure safety, traffic is again resumed.

Sirens and bells on the apparatus are sounded continuously, except in hospital zones, until arrival at the fire.

When an officer accompanies the apparatus, he is held responsible for same and determines the rate of speed at which to travel. In the absence of such officer the driver is held responsible, and must at all times have the apparatus under his control.

The hundred per cent cooperation of the police department has also helped to reduce the number of accidents to a minimum.

The immediate arrest and conviction of our first citizen offender for obstructing the right of way of fire apparatus, served as an excellent example for the remaining would-be violators.

We have a population of approximately twenty thousand and very heavy summer traffic to contend with. However, in the past three years, since these methods have been employed, we have had only one minor accident to apparatus responding to a fire. That was caused by negligence on the part of the driver who settled for the slight damage incurred.

H. M. Topping, Chief, Whittier, Cal.: We employ trained and competent men to handle the apparatus. In this department an officer accompanies the apparatus and it is his duty to direct the driver and see that he has the apparatus under control at all times.

In responding to a fire, the speed limit of apparatus in congested districts is twenty-five miles and hour and in open districts, not greater than thirty miles an hour. Apparatus is driven in the center of the road to avoid colliding with other vehicles that might pull out from the curb or back out of a parking space. Complete stops are made at all railroad crossings where there is less than three hundred feet clear vision of tracks. When leaving quarters, the siren is sounded the moment the engine is started and a man is detailed in front of the station to see that the way is clear of all traffic. In returning to quarters the speed limit is twenty-miles an hour in any district and not more than fifteen miles an hour at street intersections. Also when returning from a fire, the officer on the apparatus dismounts and goes ahead at all railroad crossings to see that the way is clear for the apparatus to pass.

J. N. Sullivan, Chief, Utica, N. Y.: At fire stations located on streets having car lines, we have an electric sign with the word "stop" which is thrown on before the apparatus leaves quarters. In addition to this the apparatus is brought to a full stop at the curb line. This has reduced collisions between fire apparatus and street cars in front of the fire stations to a minimum.

The traffic lights in congested districts are red during the the time the apparatus is passing. At several very densely congested corners, sirens are installed and are blown when the apparatus is passing that way.

The best bells and sirens obtainable are installed on all our apparatus. In fact, some of the fire engines are equipped with exhaust whistles. We have installed, and are installing at the present time, a vacuum brake on the apparatus which decreases the stopping distance from forty to seventy per cent at all speeds.

When returning to quarters, all traffic rules as to lights, etc., are strictly obeyed and while there is no set speed limit, officers and drivers are held responsible in case of excessive speed.

Jas. Black, Chief, Grand Forks, N. Dak.: Only drivers who are well qualified to drive the apparatus are employed. A driver must have good vision, be able to think and act quickly in emergencies, and at no time let the apparatus he is driving get beyond control.

The public should be kept informed through the press as to what is required to prevent accidents to fire apparatus.

Enforcement of laws by the police department is also of great importance in eliminating accidents.

F. B. Fenerstein, St. Charles, Mo.: I do not employ anyone as driver whom I consider careless or incompetent. My men are instructed that it is better to arrive at a fire a little late by driving carefully than to drive recklessly and cause damage to the apparatus with perhaps loss of life. Sometimes it is necessary to drive a mile or more before reaching the fire. While apparatus is driven quite fast, it is always under control, and the men know all the dangerous crossings and turns, and keep informed as to the condition of the roads.

Hugh F. Morris, Chief, San Mateo, Cal.: Operators are instructed not to exceed forty miles an hour in going to a

fire, and when returning to the engine house not to exceed twenty miles an hour, unless responding to another alarm. An operator should use due care and precaution at all times especially when approaching intersections, at which time sirens and bells should be sounded.

The city has also provided the following ordinances to prevent accidents to apparatus.

"It shall be unlawful for the operator of any vehicle to race or follow any apparatus of the fire department closer than three hundred feet, when same is responding to an alarm.

"Vehicles of the fire department when going to, returning from or on duty at a fire, shall have the right of way over all vehicles and persons.

"Every operator of a vehicle, upon the approach of apparatus of the fire department, shall immediately proceed to the right hand curb and come to a full stop, standing parallel thereto.

"It shall be unlawful to unload passengers during such time as the fire apparatus is approaching or while the signals of fire warnings are being sounded.

"It shall be unlawful for any person operating any vehicle, street car, locomotive or railroad car, in or upon any street, or for any person standing or walking on any such street to fail, refuse, or neglect to allow the right of way of apparatus of the fire department when same is going to, on duty at, or returning from a fire."

Here is the Problem for the Next Issue

What methods do you employ for reducing the number of false alarms?

Ernest G. Beckert, Chief, West New York, N. J.: In order to reduce the hazard of accidents to fire apparatus in responding to alarms, we have a traffic control system on all busy crossings. When an alarm is sounded, the police in police headquarters have a control for operating the "all-red" or fire signal on all crossings simultaneously, and they are kept on for a period of two minutes. In the event of a second alarm this same procedure is repeated.

This system has been in operation for the past three years and up to date we have had no accidents as there is a clear road for the apparatus when responding to fires.

Henry J. Quane, Chief, Anaconda, Mont.: This town has an ordinance which states that street cars and other vehicles must stop upon the approach of fire apparatus.

We have sirens installed on all congested corners. Apparatus responding to fires is routed so that two pieces do not meet at the same corner, and whenever possible fire engines use the least congested streets.

We find by the use of skid chains on the four wheels that the driver has much better control of the apparatus when there is snow or ice. This eliminates many accidents.

C. Grover Rech, Chief, Tonawanda, N. Y.: The following orders are issued to all operators of motor driven fire apparatus:

"At all times keep apparatus under control.

"Never drive faster than twenty-five miles an hour.

"Always figure that there are other vehicles crossing intersections and that apparatus may meet vehicles in these locations while answering alarms, even though fire apparatus has the right of way.

"On all alarms apparatus is routed so that each piece of apparatus proceeds in a different route, or if this is impossible and it is necessary to take the same route the apparatus follows each other.

"Returning from a fire no apparatus is to exceed twenty miles an hour."

E. C. Beatty, Chief, Tuscaloosa, Ala.: The only methods that can be used to give proper care to apparatus as far as I know are:

Extreme care in the selection and training of drivers; frequent reminders to drivers that reasonable speed and careful driving are the best tests of good drivers; reminding drivers that the dangers of sharp curves should always be kept in mind, and last, that it is better to be a little late and to finally get there than to be too swift and perhaps land in a ditch or have some other serious accident.

Selden R. Allen, Chief, Brookline, Mass.: The regulations of this department state that apparatus is at no time to be driven faster than twenty-five miles an hour. A maximum pointer on the speedometer, which can only be set back by an officer with a key, will show whether or not this rule has been broken.

One piece of apparatus is not permitted to pass another on the way to a fire unless the one in the lead is in distress.

The laws of this state require that operators of all other vehicles must pull up to the right hand curb when fire apparatus is approaching. No private vehicle is to come nearer than three feet to the fire apparatus responding to an alarm, nor within six hundred feet of the line established by the department at a fire.

The department is required to obey all traffic regulations when returning to quarters.

We also employ warning gongs and lights at points where traffic is heavy. These are operated from the fire alarm station.

Chas. B. Moon, Chief, Warsau, Ind.: For the safety of our fire apparatus in responding to a fire, we have reduced the speed limit. Our maximum speed is twenty miles an hour in the business sections and thirty-five in the residential section.

Our traffic lights are equipped with an automatic switch which turns all lights red. This stops traffic for two minutes and permits fire apparatus to pass the crossings.

All traffic regulations are obeyed in returning to quarters.

W. C. Green, Chief, Concord, N. H.: When drivers leave the stations here they are expected to use good judgment in handling the apparatus. Legally they have the right of way but they are not encouraged in driving carelessly or inviting disasters.

While street sirens are operated to clear the streets when fire apparatus is approaching, there are times when they are not always successful in doing so. In such cases we waive all rights. We have found it is better to arrive at a fire a little late than have an accident and not arrive at all.

We have had several accidents during the past few years but in no instance could a member of the fire department be adjudged responsible.

Guy L. Giddings, Chief, Hastings, Mich.: We have an ordinance which states that all cars must park at the curb when a fire alarm is sounded. In no case is a private vehicle of any kind to follow a fire truck nor come any nearer than five hundred feet of same.

A fine is imposed on anyone who drives over fire hose.

By enforcing these methods Hastings has been saved many unnecessary accidents to fire apparatus.

John J. Hannigan, Chief, Norwood, Mass.: The speed limit for fire apparatus is thirty miles an hour through congested districts. Horns, whistles and bells are sounded as a warning to other vehicles. Fire apparatus should keep to the right side of the road, slow up at curves, corners and railroad crossings; pass to the left of trolley cars rather than the right.

In addition to these precautions, the headlights of the apparatus are equipped with two sets of lights, one of which is red and is used without the other while proceeding through the well illuminated sections. In darker districts, or when responding on long runs over state roads, both lights are used.

In this department the chief's car is equipped with a red flasher which flashes on and off each second as a warning to cars coming in the other direction.

James H. Swager, Chief, Niles, Ohio.: Traffic lights are controlled from the fire station. On congested streets we have a diaphone horn on the bottom of the traffic lights. When the control switch is thrown on, all lights turn red and at the same time the horn blows.

The police station is next to the fire house, and in responding to alarms about seventy percent of the time a motocycle policeman accompanies the apparatus to help to clear traffic.

John M. Evans, Chief, New Orleans, La.: We regulate the speed of our apparatus, responding to fires, to twenty miles an hour in congested districts and twenty-five miles an hour in the outlying districts. The result is that we have had no serious accidents to our apparatus.

Drivers are cautioned to return from fires at a moderate rate of speed.

The commanding officers are held responsible for the enforcement of these regulations.

Robt. Heitlage, Chief, St. Bernard, Ohio: As this city is small our longest run is about a mile. We have no street signals but the apparatus is equipped with sirens, and there is an automatic red signal light in the front of the fire station.

(*Continued on page* 242)

What Should Modern Rules Include?

Rules for Master Mechanics and Superintendents of Machinery or Repairs and Their Assistants Considered—Eleventh of Series

IN this installment of the series of articles on the rules and regulations of fire departments is considered the rules pertaining to master mechanics and superintendents of machinery or repairs and also assistant superintendents of machinery or repairs. There are thirty-four of the rules for the master mechanics and superintendents and eight for the assistants, contained in the forty-one reports analyzed, as compared with sixty-four for drivers, chauffeurs and engineers considered in the last issue of FIRE ENGINEERING. An analysis of the rules for master mechanics and superintendents of machinery or repairs follows:

In nineteen of the forty-one departments considered the following rule is incorporated:

"The Master Mechanic shall be in charge of and responsible for the working of all apparatus and engines, directing their tests, repairs, renewals, etc., subject to the orders of the Chief of Dept. and shall make all reports and recommendations covering same to the Chief of Dept."

Ten of the forty-one departments enforce the following rule:

"He shall report in writing to the Chief of Dept. any neglect of duty he may find on the part of any engineer or operator of Dept. motor apparatus."

Out of the forty-one cities nine enforce the following four rules:

"The Master Mechanic shall have complete command of the Fire Dept. Repair Shop, all equipment therein and of all employees who may from time to time be employed, detailed or assigned to such shop and shall have power to suspend from duty any member under his command, whenever, in his opinion, an emergency justifying such suspension exists and shall make immediate verbal report of such suspension to the Chief of Dept., this to be followed promptly by proper and well sustained written charges."

"He shall perform such other duties as may be assigned to him by the Chief of Dept."

"He shall see that only department of safety and excise work is performed at the repair shop. He shall keep an accurate record of all repairs made, and of all materials and supplies used in this dept."

"He shall recommend in writing, to the Chief of Dept., the rebuilding of such old apparatus as in his opinion may be necessary and state the facts upon which his opinion is based."

Seven cities have incorporated in their rules and regulations the following two rules:

"The Master Mechanic shall instruct the Engineers and Drivers of apparatus in the proper care, operation and maintenance of same, and no member shall be assigned as Driver of any apparatus without his knowledge and approval."

"The Master Mechanic shall keep an account of the amount of labor and materials expended on each piece of work done under his direction, the cost of same, when and for which company said work was done, to what particular piece of apparatus applied, and the expense incurred in this way on account of each company and each piece of apparatus."

These three rules are considered essential in six of the departments:

"No major repairs to apparatus, such as rebuilding, repairing, etc., shall be made by the Supt of Machinery, nor shall any new apparatus be constructed by him, without express authority of the Chief."

"The Supt. of Repairs shall be held responsible for the results obtained from pumpers at fires, inasmuch as his duty is to instruct chauffeurs in charge of pumpers, in their care and management, and any neglect or incompetency on the part of any chauffeur, or assistant noticeable by him must be reported at once to the officer in command at the fire, and later by written communication, or charges, to the Chief of Dept."

"The Supt. of Repairs shall supervise the work of the employees of the Repair Shop; make requisitions for supplies as needed at the Repair Shop, and cause supplies to be furnished and repairs made, as called for on the regular department requisitions. In case of accident or emergency, repairs may be made upon the request of officers, said work to be covered by regular requisition as soon as possible afterward."

The following four rules are enforced in five of the forty-one departments:

"He shall attend all second or greater alarms of fire and shall render such assistance to Engineers or Drivers as may be necessary. He shall see that a competent machinist is on duty at all times, subject to call for any emergency which may arise."

"The Supt. of Repairs shall keep a true and complete record of all reserve apparatus, with location of same, also all reserve or duplicate parts, such as wheels, tires, axles, valves, etc., where located, and what particular apparatus they will fit. If any apparatus is in need of special repairs he shall report same to the Chief Engineer, and under his orders see that same is promptly repaired, in no case will any apparatus be put out of service without the consent of the Chief Engineer."

"The Supt. of Repairs may, subject to the approval of the Chief Engineer, adopt and enforce such minor shop rules as do not conflict with the rules, regulations and orders of the department."

"The Master Mechanic shall respond to all second and greater alarms of fire and orders given by him shall be obeyed the same as those given by other chief officers, concerning machinery and equipment."

Out of the forty-one cities four require that:

"At fires he shall visit each piece of apparatus working at fires as often as possible, to note any defects and to make such adjustments or changes as will enable the best results to be obtained."

Three cities have incorporated the following four rules:

"The Master Mechanic shall at the order of the Chief of Dept., make an inspection or a test of any apparatus that he may deem necessary."

"The Master Mechanic shall make daily reports on all apparatus inspected."

"He shall make reports from time to time to the Chief of all work done or required to be done. Annually, he shall prepare and submit to the Chief a report covering the operation of the Dept. shop for the preceding fiscal year, together with an estimate of the expenditures necessary for the support and maintenance of the Dept. Shop during the fiscal year next ensuing; and shall make such other reports as may be prescribed."

"The Supt. of Machinery shall be just, firm, and dignified in his intercourse and dealings with other members of the Dept., and shall see that all rules, regulations and orders are strictly enforced. He shall promptly report to the Chief of Dept. any violation of rules, regulations, or orders which may come to his attention."

In two cities these eight rules are required:

"The Master Mechanic, before any apparatus is delivered for duty, either as a relief apparatus or after being repaired, make such tests as may be deemed necessary or as may be required by the Chief of Dept. to insure that the apparatus as a whole is in proper and efficient working condition. On every occasion when a pumping unit is tested it shall be tested for capacity and pressure and a record shall be made and kept of the date, time and results obtained from such test."

"He shall report direct to the Chief in charge at all second or greater alarms of fire."

"He shall be present at all inspections and tests of apparatus, and shall make tests of fire hose when ordered."

"He shall prepare and submit exact semi-monthly payrolls for his department. He shall submit a monthly motor report detailing the operations of all trucks assigned to his department.

He shall prepare and submit such other reports as may be called for from time to time by the Chief of Dept."

"The Superintendent of Machinery in his dealings with officers and men of the various companies of the Dept., shall communicate with them through the Battalion Chief commanding. He shall issue no order without authority from the Chief of Dept."

"Supt. of Machinery shall arrange vacations in respective department for approval of Chief of Fire Dept."

"The Master Mechanic shall also see that the working time of each employee is correctly kept."

"The Supt. of Repairs shall be the duty of the Supt. of Repairs to designate a competent Inspector of Apparatus, regular monthly inspections are to be made, defining the condition of the apparatus, calling attention to any irregularities or necessary repairs to be made. Inspections to be listed and checked according to standard inspection sheets now used in the department."

The rules which follow have been found listed in but one city each:

Oklahoma City, Okla.

"The Master Mechanic shall rate as a Deputy Chief."

Denver, Col.

"He shall visit the various fire stations whenever necessary and shall carefully inspect the apparatus therein in order to determine whether or not they are kept in good order and ready for immediate use."

Washington, D. C.

"He, or his assistants, shall promptly report for duty at any time or place upon receipt of notice that his services are required."

"At least once each year he shall make or cause to be made a general inspection and test of all hose in the Dept., and shall report thereon to the Chief."

Baltimore, Md.

"Supt. of Machinery shall report daily at the Fire Headquarters, except Sundays, or unless otherwise ordered."

"Supt. of Machinery shall report promptly to the Chief of Fire Dept. if, from any cause, he is unable to perform his duties."

Rules and Regulations for Assistant Master Mechanics and Assistant Superintendends of Machinery or Repairs

Following are the rules and regulations pertaining to assistant master mechanics and assistant superintendents of repairs or machinery or repairs:

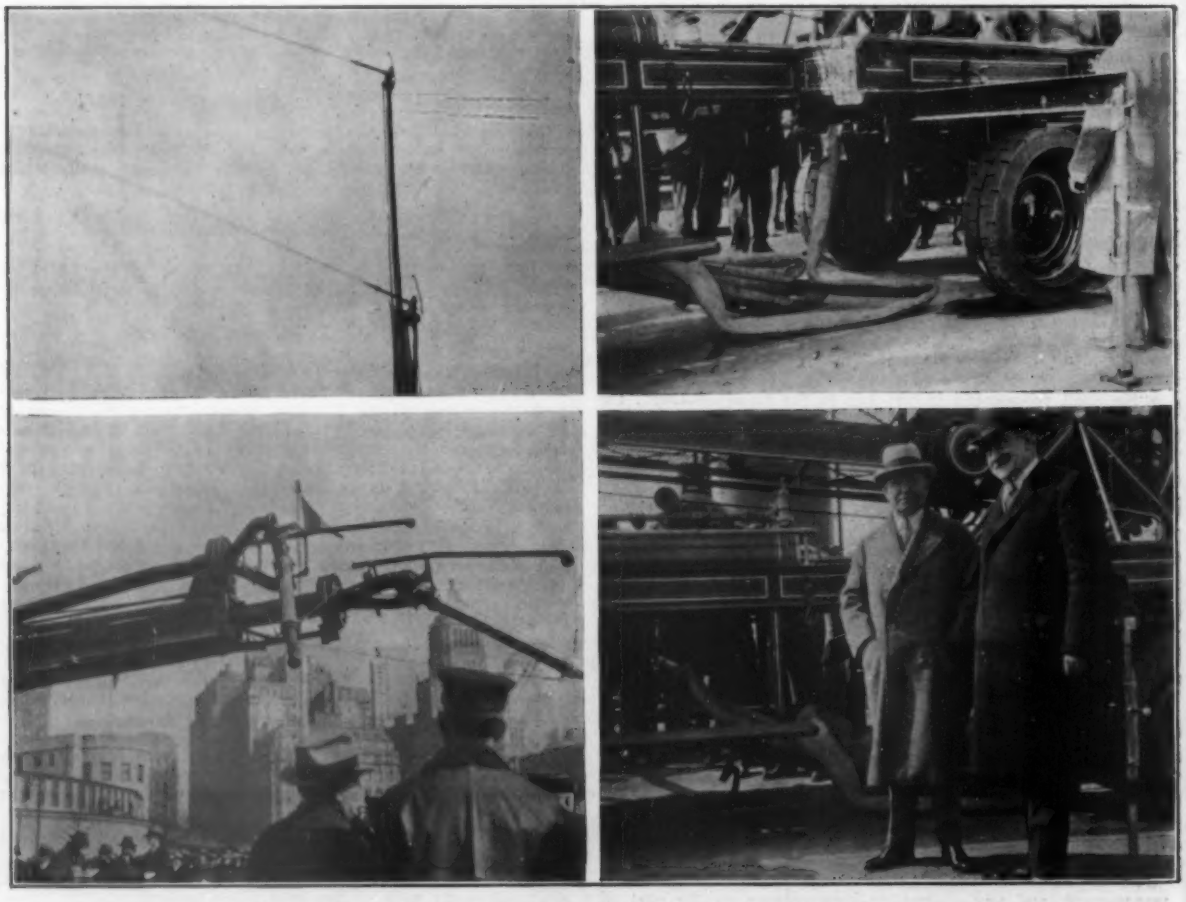
In five of the forty-one departments considered the following rule is incorporated:

"The Asst. Supt. of Machinery shall perform his duties under the supervision and direction of the Supt. of Machinery, and in the absence or disability of the latter shall perform and be held responsible for his duties."

The following rule is incorporated in two of the cities:

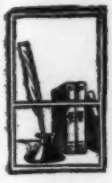
"The Asst. Master Mechanic shall be next in rank to the Master Mechanic."

(*Continued on page* 245)



Snapped at the Recent Test of New York's New Duplex Water Tower.

Upper left—The two masts in action; upper right—Showing I-beam arrangement for bracing the water tower chassis when the towers are in action. Note the screw jack supporting end of I-beam; lower left—Close-up of the mast pipes when main mast is telescoped; lower right—Chief John Kenlon and Fire Commissioner J. J. Dorman were on hand to give the apparatus the once-over.



WITH THE EDITOR

Lessons of the Automobile Tent Fire

The fire which occurred in the Los Angeles Automobile Show, housed in tents and surrounded with all the accessories to a mammoth blaze, should bring home to those connected with the business of exhibiting autos, or any other product, for the matter of that, several important lessons.

Certainly, the show as staged in Los Angeles could not have had a better setting for the formation of a huge bonfire. The inflammable canvas, the flimsy booth fixtures, the gasoline filled tanks of the autos, all merely awaited the careless smoker who never should have been allowed within such hazardous precincts. But, to cap the climax, and complete the realistic picture was the fact that the smoker stood in close proximity—close enough to ignite the dangerous substance—of an inflammable cabin covering to an airplane, ignorant of or indifferent to the danger such an act constituted.

It was a most fortunate thing that the fire happened when it did. If it had occurred when the show was thronged with visitors, judging by the lightning-like rapidity with which the flames spread, nothing could have prevented a severe panic and possibly a terrible loss of life. The saving of expense in housing the show by utilizing a canvas structure instead of a properly constructed building was surely not justified, when this false economy meant the endangering of thousands of lives in such a fire trap. In fact this occurrence should result in legislation forbidding the use of tents and like flimsy structures for any huge gathering of persons such as this exhibition involved, with the inflammable contents housed therein. The advantages in point of economy are so far outweighed by the extreme fire hazards as to strongly justify the passage of such ordinances.

A Dynamite Theory "Exploded"

Up to the present time it has been generally understood by those not fully informed that dynamite will only explode by means of detonation, and that it therefore is harmless in the case of a fire surrounding it. Under this supposition firemen have freely entered buildings known to contain the substance in large quantities, feeling that they were safe, even though the flames licked the explosive, for it would simply burn.

But a fire that occurred on a farm near Scribner, Neb., has conspicuously upset this theory, and at the same time been responsible for the death or maiming of over fifty persons. A barn on the farm caught fire, and while the firemen from the surrounding towns and farm hands were fighting the blaze, five hundred pounds of dynamite, which was stored in the structure, exploded from the intense heat, wreaking destruction on the surrounding buildings, killing four persons outright, and injuring a large number of others.

There seems no possibility of doubt that the dynamite was exploded by the heat, as there was no detonation at the time to set it off. Such being the case, the theory that dynamite cannot be exploded by intense heat is disproven. This fact will cause unusual precautions being taken by chiefs in sending their men into buildings containing the explosive. Heretofore, with the knowledge that a fire building contained dynamite, an officer would caution his men to work carefully around the explosive. But now all of that is changed, and with the experience at the Scribner farm, the chief will not even allow his men to go near a structure known to contain the explosive in dangerous quantities.

Also, very stringent regulations will have to be drafted concerning the amount and manner of storing dynamite in or near occupied buildings. Even the small shanties and boxes which it is now customary to store this explosive used for blasting purposes will be considered a hazard, for if one of them should catch fire and cause intense heat to develop, the danger to surrounding property will be great.

Carrying Inflammable Liquids in Quantities Through Public Streets

A fire in Pittsburgh, Pa., destroyed two buildings and caused the loss of life through burning of two men. There is nothing very unusual in a piece of news of this character—one can read of like occurrences almost every day in the week. But the cause of this particular blaze and the peculiar circumstances attending it, make it stand out as unique in the annals of fire-fighting, and at the same time points a lesson as to what may happen at any time from the same cause.

A large gasoline truck, loaded to full capacity with fifteen hundred gallons of a high grade of the inflammable and dangerous liquid, traveling at high speed, rounded a corner, struck a traffic light pedestal, richochetted to the curb, mounted the sidewalk, and finally overturned as it dashed into the roadway again. What happened to ignite the gasoline flowing from the ruptured tanks is not known. It may have been a spark through the contact of the truck with the curb, or a flash from the engine. At any rate, in an instant the street became a river of fire and the unfortunate driver and his passenger, thrown from the truck by the shock, were quickly surrounded by the flames before they could escape or before rescue was possible. In less time than it takes to relate it, the flaming river had involved two

structures, and these were doomed before the first alarm companies arrived upon the scene. That many other buildings were not involved is undoubtedly due to the prompt work of the fire department, in stopping the flow of the burning gasoline before it reached any further.

By great fortune only two of the five compartments of the truck were ruptured, and in spite of the intense heat, the gasoline in the remaining three tanks did not explode or ignite. If this had happened the difficulties of the fire department in confining the flames would have been greatly increased. Another fortunate circumstance was that the accident occurred on a Sunday, when traffic at this particular point was light. On a week day, at the hour the accident happened, the sidewalks would have been thronged by workers going to their lunches, and the loss of life might have been very great. A large number of automobiles would also have been parked at the curb, and the property loss would also have been much greater.

This unusual fire again emphasizes the hazard of permitting large quantities of so dangerous a fluid as gasoline to be transported through the public streets, especially when contained in automobile trucks traveling at reckless speed. While such a fire is unusual, there is no reason why an occurrence of this kind, given the same or similar circumstances, could not easily happen again and be repeated indefinitely. In explosiveness, gasoline is more potent than dynamite, and in its rapidity of combustion, it is unequaled by any other inflammable liquid that is likely to be transported in large quantities. The wise provision of separating the tank containing the fluid into compartments is shown by the result. If all of the five compartments had given way, or if the truck had contained only one large tank, the result would, of course, have been much more destructive. But this fact does not reduce the hazard of transporting such large quantities of the fluid through the streets. The regulations should provide a much smaller limit to the amount permitted to be carried by a single unit, so that accidents of this nature might be avoided or minimized in the future.

Yuma to Entertain Arizona Firemen

The sixth annual convention of the Arizona State Firemen's Association is to be held at Yuma, Ariz., on April 11 to 13. Both as to the business program and the entertainment the convention promises to be a most interesting and enjoyable one. The program is as follows:

Wednesday, April 10

Registration at City Hall, Assignment of Hotel Accommodations, Motorcade Sight Seeing Trip Through the Valley.
7:00 p. m.—Stag Smoker at Fire Department Headquarters. Lady visitor entertainment at the Business Woman's Club.

Thursday, April 11

9:30 a. m.—Invocation by the Rev. Roger Brown. Address of Welcome by Mayor A. L. DeMund. Response by Chief Jos. A. Roberts of Tucson.
2:00 p. m.—Business Session.
4:00 p. m.—Motorcade to Somerton and Gadsden, Refreshments at San Luis, California, Mexico.
7:30 p. m.—Banquet and Dance at Legion Hall for visitors and their ladies.

Friday, April 12

8:30 a. m.—Visit to Exhibition Quarters.
9:30 a. m.—Music by Indian Band in charge of Medicine Man Chief, "Strong Horse" Knotts.
10:00 a. m.—Business Session.
Topic Discussion: 1. History of Fire Departments, by Jos. A. Roberts, of Tucson. 2. First Aid, by J. D. Sullivan, of Phoenix. 3. Fire Insurance Service, by Robt. Connell, of Prescott. 4. Do We Owe Fire Protection Outside of Corporate or City Limits? by J. J. Murphy, of Warren. 5. Cooperation Between Police and Fire Departments, by B. W. Norton, of Bisbee. 6. Fire Alarm Systems, by W. B. Harmon, of Mesa.
12:00 m.—Official Photograph.
1:30 p. m.—Business Session.
5:00 p. m.—Exhibits and Demonstrations.
7:00 p. m.—Banquet and Dance at the Elks' Home for visitors and their ladies.

Saturday, April 13

8:30 a. m.—Visit to Exhibition Quarters.
9:30 a. m.—Business Session, Election of Officers, and selecting City for holding 1930 Convention.
12:00 m.—Buffet Lunch at Department Headquarters.
1:30 p. m.—Motorcade to Old Mexico, where an "Old Style Clam Bake" will be served.

Dangerous Firebug Arrested

A three-page circular distributed by W. A. Groce, assistant state fire marshal for Washington, and H. H. Pomeroy, chief deputy fire marshal for Oregon, throughout the states of Washington and Oregon, has been credited with the apprehension of the most dangerous criminal known in that section.

On January 25, 1929, the sheriff of San Bernardino, Cal., arrested a man giving his name as H. McNely for attempt to put over a fictitious draft on the Bank of Italy under the name of R. B. McCrary. A comparison of handwritings on the draft and a circular sent out by the Oregon and Washington departments showed that this person was the man wanted by these two states in connection with a number of hotel fires and for circulating bad checks.

Man Responsible for Many Fires in Two States

W. A. Groce, assistant state fire marshal for Washington, said:

"I have often stated that the fire bug was the most despicable on the entire calendar. The arsonist does not stop to consider the injury to life and property which is apt to result from his act. In my twenty-two years experience in the fire work, I have never come into contact with a case that meant so much to the people at large, as this one. The arrest of this man has ended a search that lasted more than twenty-one months. He left a trail of fire and crimes that are almost beyond comprehension.

Most all of the fires started were in linen closets or toilets. In each instance he would register under an assumed name. It is generally believed that he has set more fires than have been attributed to him.

Fire Explodes Ten Cases of Dynamite

A catastrophe occurred recently in Scribner, Neb., which disproves the popular conception that fire will not detonate dynamite. Five hundred pounds of dynamite that was stored on a farm to open possible ice gorges that might form near bridges, exploded as the result of a fire, and four persons were killed and nearly fifty others injured.

The volunteer fire department was called to fight what was supposedly one of the general run of farm fires. About one hundred persons were attracted by the flames. The ten cases of dynamite stored in the barn was set off by the heat. The explosion was reported felt twenty miles away. Farm building were demolished and windows in the town were shattered.

Doctors were rushed from Dodge, North Bend, Fremont and Omaha. The mayor of Scribner was in Omaha when the explosion occurred. He read about it in the newspapers and immediately rushed back to his home town. He said that the county was responsible and that he would demand an investigation.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Discharge from Open Butts

To the Editor:

If you will be kind enough to answer the following question, your trouble will be much appreciated.

Question: A 750 gallon pumper is draughting from suction and pumping through two 200 foot lines 2½ inch hose—open butts. The pressure at the pump is 90 pounds; what is the pressure at the butts, and what is the discharge in gallons per minute?

Thanking you in advance, I am,

K. D. J.

Answer. Here's a short cut for solving open hose butt problems:

Multiply the diameter of the open butt by 0.895. The answer you get will be the diameter of the nozzle which will give you the same discharge as the open hose butt—when the nozzle pressure remains the same.

In this problem the open hose butt is 2½ inches in diameter.

2.5 x 0.895 = 2.237 inches approximately, which is the diameter of a nozzle that will give the same discharge as the 2½ inch butt.

Then you can solve for butt pressure and discharge as in the case of a nozzle on the line.

Thus: Nozzle pressure (butt pressure).

$$= E.P. \div (1.1 + K \times L)$$

K for a 2.237 inch nozzle is found as follows: d x d x d x d ÷10

K = 2.237 x 2.237 x 2.237 x 2.237 ÷ 10

K = 25 ÷ 10 = 2.5 approximately

L = 200 ÷ 50 = 4

N. P. (Butt pressure) = 90 ÷ (1.1 + 2.5 x 4)

= 90 ÷ 11.1 = 8.1 pounds

Discharge = 30 x d x d x √8.1

= 30 x 2.237 x 2.37 x 2.846

= 427 gallons per minute approximately.

The same result may be secured, once the nozzle pressure is determined, by using the old formula for discharge from open butts: Discharge = .80 x 30 x d x d x √p. Where "d" is the diameter of the hydrant butt.

Thus: Discharge = .80 x 30 x 2.5 x 2.5 x √8.1

= 426 g. p. m. approximately.

This is the discharge from one line.

From the two lines the discharge would be just twice as much, or 2 x 427 or 854 gallons per minute.

Some Buffalo Questions

To the Editor:

This coming April I intend to try an examination for Battalion Chief in our city and I would appreciate the following information:

(a) The names and authors of any books covering a knowledge of leverage and the formulas governing the same.

(b) Problem: A man weighing 180 lbs. wishes to raise a weight of 1,000 lbs., using a 30 ft. ladder as a lever. What is the greatest distance from the weight that he could place the fulcrum.

C. H. H.

Answer 1. For information on leverage, stability, etc., you are referred to any standard high school book on physics, or college book on elementary mechanics. There are no books on the market which cover these subjects from a fire department angle, giving illustrations in connection with water towers and ladder trucks.

Answer 2. In this problem no reference is made to the weight of the ladder, hence it will be disregarded. The location of the fulcrum will have to be such that the moment of the force on one side of the fulcrum will be the same as on the other. By moment of force is meant the force times the distance from the point of application of the force to the fulcrum.

In this problem let us say that the distance from the point at which the man rests on the ladder to the fulcrum is Y, while the distance the load is placed from the fulcrum is X.

180 (30 — X) = 1000 X.

X and Y are distances, and together make up the length of the ladder or 30 feet. To take this in the form of an equation, X + Y = 30, and transposing the X to the other side of the equation we get Y = 30 — X.

Putting this value of Y in the equation of moments we get

180 (30 — X) = 1000 X.

Or 5400 — 180 X = 100 X.

Or 5400 = 1180 X.

From this, X equals 540 ÷ 118 or 4.58 approximately.

In other words the fulcrum will be placed 4.58 ft. from the point at which the load of 1000 lbs. is applied. The distance of the fulcrum from the point at which the man is applying the force, is found by subtracting 4.58 from the length of the ladder, 30 ft., given us 25.42 ft.

Problems of Small Lines

To the Editor:

I have encountered some very troublesome questions in regard to figuring engine pressure, nozzle pressure and friction loss on 1½-inch hose. I have "constants" for some, but none can be proven successfully.

I will greatly appreciate any information you can give me on problems of the above type.

R. R. R.

Answer: With regard to solving problems involving 1½-inch hose with various size nozzles, the simplest method of accomplishing this is to first change the 1½ hose to 2½ inch by dividing the length of 1½-inch hose by the factor 0.074. Your quotient will be the length of 2½-inch hose.

The factor for any size nozzle on 2½-inch hose (where the factors are not given in the tables commonly printed) is to multiply the diameter by itself three times (that is, if a nozzle is, for instance, 1 inch, this operation would be 1 x 1 x 1 x 1) and divide the result by 10. In the case of a ½-inch nozzle, for example, the value of the constant would be found as follows: .5 x .5 x .5 x .5 divided by 10=0.0625 divided by 10=0.00625. This is the value of K for ½-inch nozzle on a 2½-inch line of hose.

By following the above methods, you will be able to solve for any layout given wherein 1½-inch hose is involved.

Some Fire Alarm Questions

To the Editor:

Below are nine questions recently asked in an examination for fire alarm superintendent in this city. I will highly appreciate your assistance if you will answer them in an early issue of your journal.

W. H. A.

EDITOR'S NOTE—*The previous three questions and the answers were published in the last issue of* FIRE ENGINEERING. *Answers are given after each question to facilitate study thereof.)*

Question 4. Draw simple diagram of a fire alarm box.

Answer. Reader is referred to catalogues of fire alarm manufactures.

Question 5. Explain the difference between Class A, Class B, and Class C, fire alarm systems?

Answer. Class A. Systems. Shall be required where the number of alarms approximate or exceed six hundred per year. Such systems which require manual operation to retransmit the alarm must have two or more operators on duty depending upon the number of alarms handled; when retransmission is normally automatic, to each fire station over an alarm circuit, only one operator is required with a second readily available in emergency.

Class B. Systems. Shall be required (unless a Class A System is required or installed) where the number of alarms per year approximates or exceeds three hundred. In these systems there is provision at a central office for automatic transmission of box circuit alarms over one or more alarm circuits so that each fire station will receive box circuit alarms over some box circuit and over an alarm circuit, if any. Such systems require a telephone operator, capable of testing and operating the fire alarm system, constantly on duty.

Class C. Systems. Shall be required for communities having an organized fire department but not having or requiring Class A or Class B Systems (having not more than three hundred alarms per year). In these systems alarms are automatically transmitted from boxes to all fire stations, over either a box or an alarm circuit.

Note.—In the above, an "alarm" means any fire call, however originating.

Question 6. How would you give a storage battery its first or initial charge?

Answer. The charge should be started at the normal rate of three-quarter amperes as soon as practicable (not over four days) after the electrolyte is in the cells, and continue at the same rate until both the specific gravity and voltage have reached a ten-hour maximum, that is, show no rise over a period of ten hours, and gas (bubbles rising through the electrolyte) is being freely given off from all plates. The positive plates will gas some time before the negative plates. To meet these conditions, at least sixty hours charging at the normal rate will be required. If the rate is less, the time required will be proportionately increased. If neccessary, the charge can be interrupted, for instance, over night, but the interruption should not, when possible, be longer than ten or twelve hours. In case the charge is interrupted, particularly during its earlier stages, or if it is not started as soon as the electrolyte is in the cells, the total charge required (in ampere hours) will be greater than if the charge is continuous and started at once. As a guide in following the progress of the charge, readings of the current, specific gravity, and voltage should be taken and recorded, preferably at hourly intervals. The gassing should also be watched, and if any cells are not gassing, or are not gassing as much as the surrounding cells, they should be carefully examined and the cause of the trouble removed. The temperature of the electrolyte should be watched, and if it reaches 110 degrees Fahr., the charging rate must be reduced or the charge temporarily stopped until the temperature lowers. The specific gravity will fall after the electrolyte is added to the cells, and will then gradually rise as the charge progresses until at the completion of the charge it will normally be between 1.200 and 1.215 (allowance being made for the temperature correction) although a somewhat greater variation may occur, in which case the specific gravity should be adjusted to within the above limits by adding electrolyte if low, and replacing some of the electrolyte in a cell with water if high, keeping the surface at the proper height one fourth inch above the top of the plates. The voltage of each cell at the end of charge will be between 2.50 and 2.70 volts, and for this reason a fixed or definite voltage should not be aimed for.

Question 7. Supposing you were superintendent of a fire alarm system, an alarm was coming in when suddenly it ceases in the middle of the first round. Where would you look for trouble? Suppose the alarm stopped and did not finish, who would you report to immediately?

Answer. If you got only part of the first round, this would be insufficient to notify the firemen where to go. Look at the ammeter, to see if you can count the alarm from the fluctuation of the needle; push in test plug if necessary. If the circuit closed, and no further signals came, you can assume that the box had stuck in such a position that the circuit was left closed; this would be unlikely, for all modern boxes have break wheels that leave the circuit open between strokes and between rounds of a signal. If the signal stopped and the circuit remained open, test for trouble in the office, then for an open outside. If open outside, would test for grounds also; a broken wire or cable will often ground when it breaks. Try to identify the box; having the list of boxes on the circuit, you might be able to identify the box from the first or second digit. If no other way at office, must go or send out on the circuit and find what box was pulled; then get the fire department by first available—assuming that the box was pulled for a fire. At the same time determine if the battery was too weak to operate the system.

The latter part of question 8 is somewhat superfluous. You wouldn't get a chance to report to anybody, before the entire fire department would begin calling up and asking questions. In a manual system, of course, the alarm doesn't go to the fire department until the alarm operator has received and understood it; in this case, if the operator can identify the box number, he will send the firemen to the alarm. If he can't read the number, and the circuit remains open, he is out of luck and must send out and find the break. If the circuit closes, and no more of the box number comes in, either the box is stuck or is shorted out close to the box; a "short" near the office would increase the current flow, and could be detected on the ammeter.

Perhaps the best answer to this is to say: Try to identify the box, and send the firemen to it. If not possible to identify the exact box, assume that there is a fire and send a hose wagon or a man, to the boxes on this circuit, and find which was pulled and why. The superintendent will make his report to his superior, as to the trouble, when the trouble is located and fixed; he may report at once that there is trouble, to have the fire chief get the firemen to the fire. In some places the superintendent is subordinate to the chief, in other places he is not under the chief; his report on the fire alarm trouble will be made accordingly.

Question 8. What is the National Board of Fire Underwriters?

Answer. This is a voluntary trade association, made up of stock fire insurance companies. They issue a little pamphlet telling about the organization, and you can no doubt secure a copy of this on application to their office either in Chicago or New York.

It is only necessary to obey their rules if the code they issue has been adopted as the official code in your city. Otherwise it is not necessary to obey these rules, but it is generally advisable. The National Board has rules and regulations covering many features of the fire hazard; in some places parts of these regulations have been adopted by ordinance, and are city laws; such as Building Laws, National Electrical Code, etc. In some conditions it is necessary to obey these laws. Other rules are intended as guides to the best practice, and it is generally advisable to follow them so far as they apply to the particular matter under consideration. Since most of the insurance rating bureaus use these rules in determining the fire insurance rates, it is advantageous to a municipality to follow them.

Question 9. State any particular qualification as to why you believe you are better adapted for this work.

This question must be answered by each candidate differently, and no general answer will do.

Capt. McCarthy Heads Battalion List

Capt John J. McCarthy of the New York Fire Department detailed to fire headquarters in charge of the Division of Places of Public Assembly, captured highest honors on the new eligible list for promotion to the rank of Battalion Chief, according to the Municipal Civil Service Commission.

Capt. John J. McCarthy

The examination was held last July and 198 fire captains competed. Seventy-seven of them attained the required 80% as the final average to qualify.

Capt. McCarthy is one of the department's most progressive officers. He is only 37 years of age and has been in the service fifteen years. He compiled and edited the department's book of rules and regulations. For the past five years he has been the commanding officer of the division that has the responsible jurisdiction over theatres and other places of public amusement.

As a fireman during the World War, he enlisted and because of his ability and expert knowledge of fire fighting, he was commissioned and designated fire marshal of the Port of Embarkation with headquarters at Hoboken. Gen. Shanks in his book "Passing through the Port" paid public compliment to McCarthy's efficiency and service. He returned to the fire department as a fireman, and in a subsequent examination for promotion to lieutenant he gained

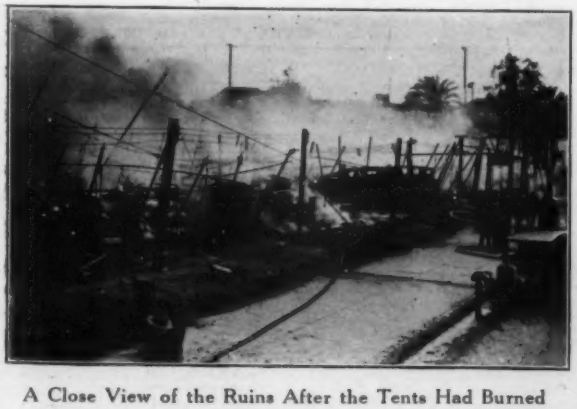
(*Continued on page* 245)

The Los Angeles Auto Show After It Had Been Swept by a Fire That Caused a $2,000,000 Loss

CIGARETTE CAUSES $2,000,000 LOSS AT ANNUAL AUTO SHOW

Four Tents Housed 326 New Model Automobiles and an Airplane Exhibit—Fire Burned Through Canvass Tops in Twenty Minutes

A WOMAN did it. Fire officials are convinced that a smoker, believed a woman, is responsible for the fire that destroyed the four large tents that housed the sixteenth annual automobile show in Los Angeles. The fire swept through the canvas like a prairie fire. In a few moments it was impossible to save any of the motor exhibits.



A Close View of the Ruins After the Tents Had Burned

The show included a small airplane exhibit. The person blamed for the fire was standing beside a monoplane that had a cabin enclosure made of some highly flammable composition. When the match was struck the enclosure ignited and the force of the puff blew the flames to the canvas top. This happened at 4:15 p. m., at a time in the late afternoon when there were few spectators in the tents.

Two firemen were within a few feet of the airplane exhibit. One ran through the tent ordering every one out. The other played an extinguisher on the blaze which had burned a hole in the canvas top about three feet in breadth. The small blaze was being brought under control. Just at that time some one, in the excitement, opened one side of the tent. A powerful draft was created. The flame was fanned into a good blaze which swept like a prairie fire through the canvas. Fire leaped to the other three tents.

The four military bands, true to tradition, played while the visitors rushed to safety. But even the musicians could not remain very long and they too were forced to flee. Burning pieces of cloth fell all about the cars.

Soon there was heard the staccato of bursting gasoline tanks as the blaze reached the latest automobile models. Tent No. 1, which was fitted with columns to represent a Roman coliseum, soon succumbed to the spreading flames. One tent was decorated like an Oriental palace with bright reds and greens. That too was destroyed.

All this happened in a period of twenty minutes. A large smoke screen rose to the sky and attracted persons from all over the city. Traffic throughout the entire down town section was brought to a standstill. It was impossible to drive through a zone of about ten blocks about the show. In response to emergency calls every available police officer was hurried to the affected district but it was several hours before any semblance of order was secured.

Ten fire companies rushed to the blaze. Their efforts at even salvage were futile. They battled to prevent the flames from spreading to nearby property. In this alone were they successful.

Large Crowds Were Attracted to the Auto Show Fire

The tents housed 326 cars, many expensive models. Nothing but twisted and blackened metal was left to indicate where formerly Packards and Chryslers and Marmon autos were displayed in their mirror-like glory. About $2,000,000 worth of property.

Two firemen were badly burned when they ventured farther into the tents than was safe. They received first degree burns about the hands and face.

Chief Scott said that if the fire had happened at any other time, say about eight o'clock in the evening, no one could estimate what might have happened.

Firemen and police are looking for the smoker. They hope that she has learned a lesson—although in this case, it was taught at a $2,000,000 expense.

WAREHOUSE CONTAINING 167,000 SACKS OF SUGAR, DESTROYED

All-Night Fire at Belmond, Ia., Fought by Companies from Eight Cities—Sugar Melted by Heat but Some Bags Can Be Reclaimed

AFTER an all night battle in which fire companies from eight communities participated, the men were successful in extinguishing a fire that destroyed the warehouse of the American Beet Sugar Co., at Belmond, Ia. The warehouse contained 167,000 sacks of sugar each holding one hundred pounds.

The pump used by the company to draft water from the river

Upper—Sacks of Burning Sugar Exposed When Wall Fell. Lower—View of the Plant and Warehouse During Progress of Fire

was temporarily out of service and the firemen were hampered in their work.

The origin of the fire is unknown although officials of the company are inclined to attribute it to spontaneous combustion. A small fire was discovered on the middle of the roof by the night watchman. Before aid arrived, about two-thirds of the roof was ablaze. The fire was burning its way down. The walls of the warehouse were pushed out by the heat and hundreds of bags of burning sugar were exposed to the wind. The breeze added to the intensity of the fire. The entire end thus exposed became a roaring furnace. The heat melted the sugar and the flowing mass ran down over the hot embers and made a pyrotechnic display like the Niagara Falls commonly seen in fireworks. The syrupy mass even ran down the outside of the building walls.

Companies came from Mason City, Clarion, Iowa Falls, Fort Dodge, Eagle Grove, Luverne and Hampton, besides the aid summoned from Belmond. It was some time before the firemen's work was effective. An hour after the fire had started, there was two lines running from the Iowa river, a fourth of a mile distant, to the burning structure.

During the first part of the battle, the men worked to prevent the spread of fire to other buildings. In this they were successful. To the east of the burning section was the beet pulp warehouse and the pulp drying room. The warehouse for the pulp was of all steel construction and did not seem to be affected by the burning sugar. The drying room was more in the path of the wind. Some cupolas and other wooden structures on the roof started to burn, but the blaze was soon extinguished.

While the firemen were working, employees of the beet sugar company placed the pump back into the service, and this made available another stream from the river.

The fire was the largest ever experienced in northern Iowa. Persons attracted by the illuminated sky, chartered buses to take them to the fire. For a time the road congestion was so heavy that it was impossible to get near the plant.

It is believed that the loss will approximate $1,000,000. However, officials of the beet sugar company believe that much of the sugar can be reclaimed by a refining process. This well reduce the fire loss.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending March 8

PASSAIC, N. J.—Hecht building destroyed	80
MONTICELLO, KY.—Hotel destroyed	200
CORPUS CHRISTI, TEX.—Frame hotel & adj. property	35
TRUMANN, ARK.—Plant of Trumann Ice & Coal Co.	45
MERRITON, ONT.—Alliance Paper Co. plant	150
STAMFORD, CONN.—Whse. Getman Judd Lumber Co.	80
NORTH SYDNEY, N. S.—Belmont Hotel destroyed	30
GLOVERSVILLE, N. Y.—Whse. of Karg Bros. Mill	45
NASHVILLE, TENN.—Berry block, Church st.	45
CENTRAL SQUARE, N. Y.—H. D. Covill store property	45
BRADDFORD, Pa.—Bldg. occupied by Newberry store	35
MADISON, ME.—Junior high school destroyed	65
BUENA, WASH.—Plant of Yakima Fruit Co.	175
N. PARK, WASH.—Reinder's garage and adj. property	25
MARLBORO, MASS.—Burdett block, Main St.	40
OMAHA, NEBR.—Hayden Bros.' dept. store	40
CALESBURG, ILL.—Weir's garage damaged	30
GLOBE, ARIZ.—Property of Old Dominion Mining Co.	25
FALLS CITY, NEBR.—Business property damaged	40
HUMBLE, TEX.—Property damaged amounting to	40
RICHMOND, IND.—O. G. Whelan feed store	60
LOS ANGELES, CALIF.—Los Angeles Automobile Show	850
STRATHROY, ONT.—Stevenson Dept. store	65
MIDDLETOWN, CONN.—East Hall, Wesleyan University	25
NEWPORT, R. I.—Rosen bldg. and adj. property	125
SOUTHBRIDGE, MASS.—Apt. bldg. of G. Thomas	25
OLD FORGE, PA.—Connell school destroyed	30
CHICAGO, ILL.—Burley Bldg. Wabash Ave.	100
WILMINGTON, DEL.—Plant of Peerless Co.	55
COLEMAN, TEX.—M. H. Crockett building	40
OTISVILLE, N. Y.—Dr. J. R. Cahill's sanitarium	40
POLSON, MONT.—Polson high school building	65
CUMMING, IOWA—Cumming State Bank and adj. property	25
BUCYRUS, OHIO—Quinby block, owned by Fenner heirs	80
PITTSBURGH, PA.—Gulf Refining Station and adj. buildings	30
DRESDEN, OHIO—Warehouse of John L. Noble Lumber Co.	25
MINNEAPOLIS, MINN.—Sheffield Elevator Co.	40
MORRISTOWN, N. J.—13-19 Washington St. damaged	45
DUNDEE, MICH.—Main building high school	65
DALLAS, ORE.—Business property of B. H. McCallon	40
ROSSLAND, B. C.—Columbis Ave. business property	165
BATON ROUGE, LA.—Negro school, Perkins Rd.	35
SUNAPEE, N. H.—Odd Fellows building destroyed	30
BROOKLYN, N. Y.—Steinberg Kastor lumber plant	80
UTICA, N. Y.—Pfluke block, Columbia St.	45

Week Ending March 15

CHICAGO, ILL.—Plant of Sherwin Williams Paint Co.	225
SEWARD, ILL.—Cleveland Hall, adj. property	25
BRIDGEPORT, CONN.—Plant of F. Miller Lumber Co.	80
TOMAHAWK, WISC.—Business district damaged	400
BRIGHTON, MASS.—Golassi Mosaic Tile Co. plant	30
HUGO, OKLA.—Several business bldgs.	50
WATERVILLE, N. Y.—O'Connor block damaged	180
KENT, OHIO.—Hanger & planes, Stow Aviation Field	40
HILLSBORO, N. DAK.—Elevator of Equity Trading Co.	30
REVERE, MASS.—Eagle block destroyed	80
ESTLIN, SASK.—Monarch Lumber Co., adj. property	40
LONDON, ONT.—Northern Electric Co., King St.	150
UNIONVILLE, MO.—Houermale block destroyed	40
BELINGTON, W. VA.—Luzerne Hotel, J. Hickman, owner	25

(*Continued on page 245*)

Pensions, Compensations and Law

(*Continued from page 228*)

firemen's pension fund ordered his retirement from active service as of January 1, 1924, and placed him upon a pension. At the time of his retirement Sup held the rank of fireman, first class, at an annual salary of $2,000. His pension equalled one-half of his salary and was paid him regularly in monthly installments of $83.33 each, in accordance with a state law which, in part, provides:

"If any firemen of any such city while in active service or on leave of absence shall become and be as so physically or mentally disabled as to render necessary his retirement from active service, said board shall order the retirement of such disabled fireman and he shall be paid a monthly pension equal to one-half the amount of salary attached to the rank which he may have held in such fire service at the date of his retirement. . . ."

On October 1, 1924, the annual salary of a fireman whose rank was of the first class was increased from $2,000 to $2,200. Sup instituted legal proceedings to compel the board of trustees to increase his pension to $1,100 per year, or one-half of the increased salary of first class firemen.

However, the Court held Sup entitled only to one-half of the amount of the salary of first class firemen at the time of his retirement, and said:

"It is an elementary rule in the construction of a statute that the intention of the Legislature must primarily be determined from the language of the statute itself and not from conjectures aliunde. When that language is plain and unambiguous and conveys a clear and definite meaning there is neither necessity nor authority for resorting to statutory construction. If the words of a statute are plain and the legislative purpose manifest, that purpose must be given effect. . . . The amount of the pension is determined by the salary attached to the rank which the disabled fireman held 'at the date of his retirement.' The salary which is the basis of the pension is the salary paid at, and not after, the disabled fireman's retirement."

When Reinstatement of Discharged Fireman is Compulsory

Generally speaking, it is incumbent upon the employe claiming rights under a Soldiers' Preference Act, or other similar law, to give notice or information of his status to the officer or board having power of removal at or before the time such board or officer takes action, unless his status has already been brought to the knowledge of such officer or board.

Also, it has been held that while the lack of such knowledge justified the proper officer in attempting to make the discharge, yet the discharge is not valid, because it became the duty of the officer to reinstate him when promptly informed of his status and rights.

For instance, in Castel vs. Village of Chisholm, 217 N. W. 681, it was disclosed that a fireman was an employe of a village, as a member of its fire department, from April, 1921, to January 3, 1927, at which time his employment was terminated by the village council. He had served as a soldier in the United States army in the World War, and was honorably discharged in February, 1919. He was discharged from his employment without notice or hearing and, so far as appears, without cause.

He filed suit contending that under the state law giving preference to honorably discharged soldiers, he should be reinstated. The counsel for the village argued that the fireman was not entitled to reinstatement because it was the practice of the village council to make appointments of employes of the village annually at the beginning of each official year, and that the fireman was appointed in 1921, and thereafter reappointed at the beginning of each official year up to and including 1926; that no formal notice had been given to the village council of the fireman's rights under the soldiers' preference law, therefore it had the right to terminate his employment without notice and hearing.

However, the Court held the village bound to reinstate the fireman, saying:

"The Soldiers' Preference Act does not require or provide for any formal notice. . . . Plaintiff (fireman) was not a deputy or employe of the village council. He was an employe of the municipality, the village. He was not employed for any fixed or definite term and the council had power to remove him at pleasure unless the power of removal is restricted by statutory law. In the Soldiers' Preference Act we find such restriction. The act is in the nature of a civil service law. It is intended to remove from the hazard of political changes the class of employes therein provided for. If the intention was that the terms of employes under that act should expire automatically at the expiration of the term of office of the appointing officer or board, the law would be of little benefit and would throw these employments back under the spoils system from which it is sought to remove them. . . . And it is generally admitted that public interest is best served by continuity in service of employes who have had experience and have shown their efficiency and value in their employment. It stands admitted that plaintiff (fireman) was rendering efficient and entirely satisfactory service."

When Municipality is Liable for Discharging Firemen

In all states, excepting California, Pennsylvania, Maine, and Tennessee, the law is well established that a municipality is not liable in damages for wrongful discharge of firemen. The latest case on this subject is Gallagher vs. Kansas City, 7 S. W. (2d) 357.

In this case the higher Court refused to hold a municipality liable in damages for wrongful discharge by the board of fire commissioners, of a civil service city employe. This Court stated important law, as follows:

"The wrongful discharge of a civil service officer or employe, by the board of fire commissioners, or the head of any similar department of the said city, vested with the power of appointing officers or employes, gives no right of action of any kind against the city. . . . This board of fire commissioners, as well as all other heads of city governmental departments, in the matter of discharging or appointing an official or employe, cannot render the city responsible in any manner by reason of their wrongful acts. These officials and boards are, when so acting in the performance of the governmental functions, as distinguished from the proprietary functions, of the municipal corporation."

On the other hand, a fireman who is wrongfully discharged is entitled to receive payment of salary during the time he is wrongfully excluded from his work. This is true although he obtains employment as a fireman with another municipality during this period.

For illustration, in City of Ft. Smith vs. Quinn, 296 S. W. 722, a fireman, who was wrongfully discharged from his employment, sued the city to recover his salary at the rate of $110 per month from the time of his discharge until the date he was reinstated.

The counsel for the city attempted to avoid liability on the contention that the fireman was not serving as an officer of the fire department by virtue of a contract, but that he had been appointed pursuant to the Civil Service Act. However, the Court held the fireman entitled to recover his salary for the full period although he had accepted employment with another municipal fire department during this period. This Court said:

"The salary of an official position belongs to the officer occupying such position as an incident to the office, and does not depend upon his performance of the duties of the office. The statute makes provisions for the chief and the fire force. It also provides for their appointment, the manner of fixing their compensation, and the proceedings by which they can be removed. Their duties are of a public nature. We therefore conclude that the duties of the chief of the fire force or a member of the department are so far official in their character that one holding either position is entitled to draw his salary as an incident to such position, whether he performs the duties of such position or not."

Central California Fire Chiefs Meet

The February meeting of the Central California Fire Chiefs Association was held in Fresno, and an attractive program was arranged by the local committee. Music was furnished by the Fresno Fire Department Orchestra.

Mayor Sundeland of Fresno welcomed the chiefs who were present, and Chief George Wallace of Modesto, Cal., replied to the mayor's greetings.

Jay W. Stevens, state fire marshal, spoke on the "Benefits Which Should Accrue to the Organization of the Central California Fire Chiefs Club." Another talk given in the morning was by J. E. Mackie of Long Beach, secretary of the Pacific Coast Building Officials Conference, on "Building Construction and Its Relation to Fire Prevention and Control."

Luncheon was served in the Woodman Hall. While the men witnessed demonstrations of the E. & J. Resuscitator, the ladies enjoyed a theatre party.

The resuscitator demonstration was in charge of Captain Virden of the Los Angeles Rescue Squad. Dr. F. F. Stavely of the Firestone Tire and Rubber Company spoke on "Pneumatic Tires for Fire Department Apparatus," and this was followed by a general discussion.

At 7 P. M., the American-LaFrance Foamite Corporation arranged a demonstration of the foam generator. Transportation was provided to the department drill tower where there was an illuminated exhibition drill by members of the Fresno department. A dance in the ball room at Woodman Hall, with music furnished by the fire department orchestra, ended the meeting.

The next meeting will be held in Bakersfield on April 2 with Chief Van Meter as host. Chief W. Ralph Williams of Fresno is president of the club, Chief Ross A. Gardner, vice-president, and City Fire Marshal Lewis A. Moore, secretary-treasurer.

The Round Table

(*Continued from page 232*)

Drivers are taught to be careful and use precaution at all times, and as our apparatus is not of the high speed type, we have been fortunate in having no accidents up to the present time.

W. C. Watters, Chief, Oak Park, Ill.: Drivers are instructed to have the apparatus under control at all times, especially at bad intersections.

When coming to railroad crossings where there are any obstructions in the way of the driver, making it impossible for him to see right or left, a man should be sent ahead to see if the road is clear.

We have found that by keeping the slogan "Safety First" in mind many accidents can be avoided.

Frank Cescolini, Trinidad, Colo.: Ordinances covering the right of way of apparatus and also parking of other vehicles should be strictly enforced. Drivers should be instructed to watch all crossings as carefully as possible to avoid collisions. The officer is charge of the apparatus should always look out for other apparatus that may cross an intersecting street in responding to the same fire.

All brakes and signals on fire apparatus should be kept in perfect condition.

W. P. Weeks, Chief, Battle Creek, Mich.: We have a fire control on all traffic lights in the business district. In case of a fire, traffic signals are thrown red on all sides for forty seconds. This operation is controlled by the fire department.

In the residential districts if the street intersections look clear the siren is sounded and the apparatus goes ahead. The siren is used in responding to fire and the gong used in returning to quarters.

Jos. M. McKeon, Chief, Seneca Falls, N. Y.: Fire apparatus is given the right of way in answering alarms. The speed limit of apparatus in this city is twenty miles an hour. Drivers are ordered to be careful at all times.

Private vehicles must pull to the curb upon the approach of apparatus and are prohibited from following same.

V. H. Steel, Chief, Billings, Mont.: We use the largest electrically operated sirens on the apparatus obtainable. We also employ automatically operated bells for traffic warning in congested districts.

City ordinances compel all vehicles to stop when fire apparatus is approaching.

By employing these methods we have had only three accidents in the past ten years.

Frank J. Roddy, Chief, Monroe, La.: All captains are ordered to use discretion at all times when directing apparatus responding to a fire alarm. Using sirens in business sections and throwing the traffic lights red, clears the street of all traffic.

Our apparatus is not permitted to come closer than one block to each other unless the captain on the first piece of apparatus signals to the second piece to go ahead due to trouble.

W. R. Price, Chief, Springfield, Mo.: I believe the most effective means or reducing accidents is to have experienced, careful drivers. Sirens on the apparatus and on the corners where traffic is congested also help to prevent damage.

John H. Monroe, Chief, Savannah, Ga.: City ordinance gives fire apparatus the right of way. The traffic signals operate to give apparatus an opportunity to pass.

Drivers are instructed to slow down and have machine under control when approaching cross streets, turns, and also when arriving at fire.

M. N. Cleveland, Chief, Sanford, Fla.: We employ competent drivers to handle the apparatus. The best sirens obtainable should be used on fire apparatus. In responding to fire alarms use through streets as much as possible and drive at a moderate rate of speed. When turning corners keep as near the curb as possible.

W. J. Mohr, Chief, Santa Monica, Cal.: We have a speed limit of twenty-five miles an hour in open districts and twenty miles an hour in the congested districts.

R. J. Tomlinson, Chief, Thomasville, N. Car.: Our drivers are ordered to take no unnecessary chances when driving fire apparatus. The police department can be great assistance by stopping all traffic at the first sound of the first siren and enforcing all other rules pertaining to fire apparatus.

Talmer Wise, Chief, Circleville, Ohio: Traffic lights are thrown amber to stop all traffic and permit the apparatus to pass. Our apparatus is equipped with sirens and bells to sound warnings.

Drivers are cautioned not to operate the apparatus at too great a speed as speeds in excess of thirty-five to forty miles an hour are just as dangerous to the apparatus as to all other traffic.

Wm. B. Edwards, Chief, Brunswick, Me.: Drivers of fire apparatus should be continually instructed to use precaution at all times and not to travel too fast. I do not approve of speeding to a fire and endangering the lives of the men on the apparatus or the public.

Andrew E. Erdman, Chief, Owatonia, Minn.: City ordinance gives fire apparatus right of way in responding to alarms and states that private vehicles must pull to the curb when apparatus is approaching. The public is prohibited from following fire apparatus closer than fire hundred feet. No vehicle is to come within two hundred feet of any hydrant in use by the department at a fire. Driving over hose is prohibited unless ordered to do so by the police department. A fine is imposed on any person violating ordinances pertaining to fire apparatus.

T. P. Coe, Chief, Tallahassee, Fla.: Drivers who are competent and careful should be employed by the fire department. A driver of fire apparatus should always guard against possible accidents.

J. T. Maxwell, Chief, Cadillac, Mich.: We use sirens and red revolving lights on our apparatus. We have found this very satisfactory in protecting the public and avoiding accidents.

H. Clifford Goslee, Secy., Windsor, Conn.: Our trucks are equipped with sirens and red lights. The speed limit of fire apparatus is thirty-five miles an hour in responding to a fire and thirty miles an hour when returning to quarters. We have a special street siren and red light at the corner of Main street and the street leading from fire headquarters.

Jos. A. Roberts, Chief, Tucson, Ariz.: Apparatus should be driven slowly at bad corners, especially in wet weather and should not exceed thirty miles an hour at any time. The department should always be careful in selecting competent drivers.

E. V. Donovan, Chief, Greenville, Miss.: Accidents to apparatus can be avoided by strict enforcement of all traffic laws.

Alfred L. Mead, Chief, Quincy, Mass.: Carefulness at all times is the best way, in my opinion, to avoid accidents.

Chief D. W. Brosnan to be Named

Friends of Chief D. W. Brosnan, of Albany, Georgia, are going to place his name in nomination for the second vice-presidency of the International Association of Fire Chiefs at the next convention to be held in Birmingham, Alabama, on October 22-25.

Chief Brosnan, in view of his conspicuous work in fire prevention activities, is one of the best known chiefs in the country. He has for many years been active in the work of the International Association, having served both as director and chairman of the exhibit committee.

Mine Safety Awarded Medal

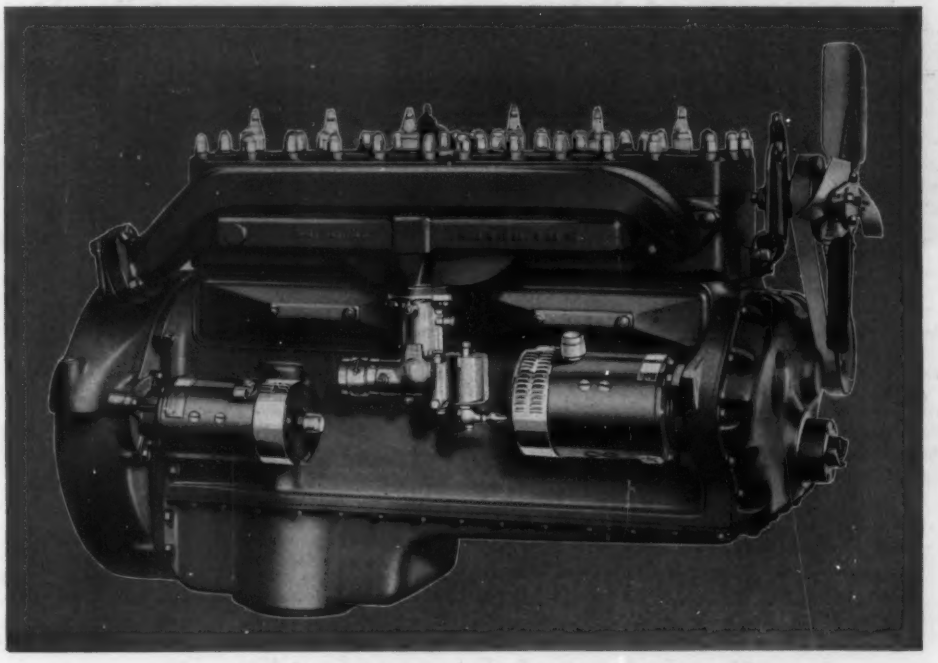
The Cecil G. Rice Safety Trophy was awarded to the Mine Safety Appliance Company, Pittsburgh, Penna., at the annual banquet of the safety school conducted by the Western Pennsylvania Safety Council. The banquet was attended by more than 1,800 men and women from the industrial plants of the Pittsburgh district who had completed the safety lecture course.

Phil G. Fenlon of the Duquesne Works of the Carnegie Steel Company acted as toastmaster and Frank L. Duggan, president of the Western Pennsylvania Division, presided. The principal speaker was Frank Phillips, vice-president of the Philadelphia Company.

The Cecil G. Rice trophy is awarded annually to the company in Western Pennsylvania having the best safety record for the previous year and is much sought after by all member companies of the National Safety Council. The announcement that the Mine Safety Appliances Company had won the award this year was received with great enthusiasm as this company is dedicated to safety, being engaged entirely in the manufacture of safety appliances.

Madison, Wis., to Work on New Station—Some time this Spring, construction will start on the No. 6 station in Madison, Wis.

Hydrant Frozen—House Destroyed—A fire that started from a defective chimney in Council Bluffs, Ia., was destroyed. Firemen were delayed in getting water due to frozen hydrants.



A Waukesha 500-Gallon Six

Waukesha
L-HEAD ENGINES
THEY TAKE BETTER CARE OF THEMSELVES

Engine for Fire Pumpers

Long life and durability under the stress of modern high-pressure pumping will be obtained with this new Waukesha Six. It is designed to stand the continuous load so frequently required in fire fighting service.

Three-inch diameter, seven bearing crankshaft, girder type crankcase, truncated cylinders, full pressure filtered oil lubricating system, and fuel-saving Ricardo Head—these features have become the hall mark of reliability in the fire fighting field.

923 *FIRE EQUIPMENT DIVISION*

WAUKESHA MOTOR COMPANY

New York Office: 8 West 40th Street **Waukesha, Wisconsin** *San Francisco: 7 Front Street*

Exclusive Builders of Heavy-Duty Internal Combustion Engines for Over Twenty Years

Kindly mention FIRE ENGINEERING *when writing advertisers.*

Buffalo Type 50—500 Gallon Pumper

Buffalo Pumpers are the most highly developed in design, construction and engineering standards and are intended for municipality, community and township fire protection.

Buffalo Pumpers are also noted for their efficiency and their great abundance of reserve power. They are pumpers with stamina and speed. All the above have to be credited for bringing great pumping merits for Buffalo Pumpers.

Buffalo Pumpers are given great and careful attention when under construction at our factory by engineers, both mechanical and designing, who have been in contact with the construction of pumpers for years.

Buffalo Pumpers range from 300 gallon capacity to 1000 gallon capacity.

IF YOU WANT SOMETHING BETTER BUY *"BUFFALO"*

Write for detailed specifications

BUFFALO FIRE APPLIANCE CORP.

44 CENTRAL AVE. BUFFALO, N. Y.

Manufacturers of all types of Fire Apparatus

BRAXMAR BADGES

Standard for Fifty Years

1879 1929

FULLY ILLUSTRATED CATALOG ON REQUEST

C. G. BRAXMAR CO.

242 W. 55th St., New York

Preserve Your Copies

Every issue, as you know, is packed full of interesting and authoritative data, ideas, news, etc., that you like to keep handy for ready reference. Why not keep them all together in a binder? You'll find this special one a great convenience. The cost is only $1.75 and many of our subscribers are already using them. What about you?

Address:

Book Department, Fire Engineering

225 W. 34th St., N. Y. C.

Name .....

Position .....

Address .....

Egyptian Association Has Effective Card

Member-departments of the Egyptian Fire Fighters Association of which Chief Albert Herring of Murphysboro, Ill., is president, need have no fear concerning lack of equipment at a fire. An effective and efficient running card has been arranged so that no town is left without fire protection when outside aid is called to fight a large fire.

There are sixty-six company-members. Chief Herring has a list of the fire-fighting equipment of each of the members, and of the available fire-fighting defense. Should a town without water supply desire assistance, the card is arranged so that chemical cars are sent. If the community has a water supply system, pumpers are dispatched in answer to the call. The association has never had the system fail.

As an example of how the "back-up" plan works, on Christmas morning Mt. Vernon went out to the rural section to fight a farm fire. Benton had just arrived in the Mt. Vernon fire house to protect that community when an alarm came to fight a fire caused by a Christmas tree. The Benton company soon had this fire extinguished. Whenever apparatus leaves a town, another unit from a nearby department is sent to furnish protection while the home unit is away.

Chief Herring reports that Murphysboro while not having many fires, is suffering from the coldest winter in eighteen years. The town is completely covered with snow. But regardless of the weather, the association is so organized that effective aid is given at any fire in the Egyptian district.

School Planned for North Carolina

Arrangements have been made by the North Carolina State Firemen's Association to hold a fire college and drill school in Asheville, April 30 to May 2. Sherwood Brockwell of Raleigh, state fire marshal, is chairman of the arrangements committee. About 150 persons are expected to attend the school.

The school will be under the supervision of Assistant Chief J. C. Fitzgerald, drill master of the Asheville Fire Department; Lieutenant Fink of Lenoir and Lieutenant Crume of Wilmington. The two lieutenants are graduates of the New York Fire College.

Many men prominent in the fire prevention and fire fighting fields have been invited to lecture at the school. At the present time, no announcement has been made of the final program. The lectures will be given at the Central Fire Station and the drill school will use the department's drill tower.

D. G. SPENCER.

Entire Department Threatens to Resign

Officers and firemen of the Sayre, Pa., fire department threatened to resign in a body when the city council attempted to abolish the fire board and substitute a fire commission in its place.

Almost one hundred firemen attended the council meeting. The borough does not own the apparatus of several fire companies. It only owns the fire hose. The men are prepared to drive up to town hall, unload their fire hose, drive back the apparatus, and await developments.

No definite steps have been taken by either side.

New Jersey and New York Volunteers Meet

A meeting of the New Jersey and New York Volunteer Firemen's Association was held in Teaneck, N. J., at which Chief Hasselhuhn of Carlstadt presided. Representatives of ninety fire companies were present.

A committee reported that the next annual meeting of the association will be held July 13 in Ridgewood, N. J.

Two new companies were elected members, and other association details came up for consideration. After the meeting, refreshments were served at the nearest fire house.

WM. PAUL BABCOCK.

Plan to Secure Pay Increases

Chief R. D. Gambrell has secured pay increases for officers in the Dallas, Tex., fire department, by a most ingenious method. Several assistant chiefs had asked him for salary increases.

The first assistant chief was changed to a deputy chief. This automatically changed his pay from $2,760 to 3,300 a year. The next two assistant chiefs were made first assistant chiefs, one man on each shift. This rank is paid $2,400 a year. The next eight assistant chiefs were changed to district chiefs at a raise in pay from $2,040 to $2,340.

What's Burning

(*Continued from page 240*)

S. PITTSBURGH, TENN.—J. T. Raulston bldg.	40
SPENCER, NEBR.—Krotter-Schulz garage	30
WOBURN, MASS.—Symmes estate mansion	30
CHELSEA, MASS.—Whse. of Liberty Coal & Cement Co.	25
COLD SPRINGS, N. Y.—Factory, Robinson Button Co.	80
CLIFTON, N. J.—School No. 4, damaged	80
STOWE, PA.—Italian Catholic Church damaged	40
READING, PA.—Colonial Hotel destroyed	400
WILKES BARRE, PA.—Gaiety Theatre destroyed	100
MOLINE, ILL.—Bldg. occupied by Hadley Furniture Co.	80
MONTREAL, QUE.—Rosetta Apt., Park Ave.	40
FORTH WORTH, TEX.—Farm show bldgs. damaged	125
SOUTH BEND, IND.—Business and apt. bldg.	40
DULUTH, MINN.—Siegel Hardware Co. Bldg.	80
McKEESPORT, PA.—S. Greenblat store damaged	50
COLUMBUS, OHIO.—North M. E. Church destroyed	65
BOSTON, MASS.—Establishment of J. W. Masury & Son	125
GARDEN CITY, N. Y.—Hanger of Rogers Air Lines, Curtis Fd.	80
DICKSON CITY, PA.—Degutis dance hall, adj. bldgs.	40
MONROE, N. C.—Schute bldg. Franklin St.	80
POTTSVILLE, PA.—Whse. occupied by Leader Furniture	25
OAK CLIFF, TEX.—Lake Cliff Casino, adj. property	80
CHICAGO, ILL.—Kennedy Bldg. on south side	80
WEBSTER, N. Y.—Whse. of Witmer Bros. Coal Co.	25
OVERPECK, OHIO.—Plant of Buckeye Foundry Co.	165
ELIZABETH, N. J.—Business property of J. F. Slusser	80
NAZARETH, PA.—Bldg. of Unangst Furniture Co.	60
DUBUQUE, IOWA.—Bldg. occupied by Dubuque Music Co.	40
NEW ROCKFORD, N. D.—Bldg. occupied by Rockford Motor Co.	55
SAGINAW, MICH.—Business property destroyed	300
VERONA, ILL.—Town hall and adj. buildings	30
NORFOLK, NEB.—D. A. Ommerman bldg. destroyed	40
TEMPLE, TEX.—Graham Jerrell store and adj. property	100
PORT RICHMOND, S. I., N. Y.—Meyer Lumber plant, other property damaged	350
MULLINVILLE, KAN.—First State Bank, adj. bldgs.	65
ATLANTA, GA.—Railroad Y. M. C. A. bldg.	45

What Should Modern Rules Include?

(*Continued from page 234*)

The following rules have been found listed in but one city each:

"The Asst. Supt. of Machinery shall have some knowledge of machinery, also motor propelled apparatus. He shall when ordered by the Supt. of Machinery or Chief of Dept. attend to any repairs to any apparatus within his capability."

"The Asst. Supt. of Machinery shall respond to all general alarms and repeated alarms of fire, and be prepared to assist the Supt. of Machinery."

Baltimore, Md.

"The Asst. Supt. of Machinery shall report promptly to the Supt. of Machinery if, for any reason, he is unable to perform duty."

"The Asst. Supt. of Machinery shall perform such other duties as may be ordered by superior officers."

Oklahoma City, Okla.

"When more than one Asst. Master Mechanic is on duty at the same time, the assistant senior in service shall have charge of the mechanical department in the absence of the Master Mechanic unless otherwise designated."

"Asst. Master Mechanic shall not be required to be in uniform while working on cars or apparatus or on duty in the repair shop."

Capt. J. J. McCarthy Heads Battalion List

(*Continued from page 238*)

the fourth highest position on the eligible list. Six years ago he won first position on another list for promotion to the rank of captain.

As a fireman he entered an open competitive examination for fire prevention inspector and attained the highest mental average, later winning first place on another eligible list for inspector of combustibles, declining both appointments to remain in the active fire fighting service which he saw mainly at Hook and Ladder Co. No. 2, Lexington avenue and 50th street and at Hook and Ladder Co. No. 43 on East 111th street, in the old-law tenement district of Harlem.

In the recent test for battalion chief he attained a final rating of 89.05%; the next nearest being 87.25%. Captain McCarthy's mental average rating was 86.10% and that of the next in line was 83.50%.

WM. JEROME DALY.

Tabor Firemen Entertain Council—Firemen in Tabor, Ia., were hosts to the mayor and the town council at a dinner.

NEW STANDPIPE RULES ADOPTED FOR THE CITY OF NEW YORK

Board of Standards and Appeals Formulates New Regulations—To Be Published in Their Entirety in These Columns

HEREWITH is continued from the February 20 issue the new "Standpipe-Fire Line Rules" of New York City. The original rules were adopted by the Board of Standards and Appeals of that city on June 22, 1922, were amended July 20, 1923, and again on May 18, 1928. The finally adopted form as reproduced herewith, was adopted July 20, 1928. Through the courtesy of Chairman William E. Walsh, of the Board, FIRE ENGINEERING *is enabled to publish the entire new rules serially.*

These new rules are formulated largely through the efforts of Peter J. Maher, Fire Prevention Inspector attached to the Division of Fire Appliances of the New York Fire Department.

Rule 65. VALVE SIGNS.—Where the gate valves on the upper cross-connections are not located in the stair enclosure, a sign with red background and white letters not less than 3 inches high shall be painted on the face of the wall within the stairway enclosure on the story where the gate valve is located, which shall read as follows: "STANDPIPE CONTROL VALVE NO. 0 IN LOFT."

Where a standpipe riser is located in a fire tower a sign with red background and 3-inch letters as above shall be painted on the wall at fire tower exit door, which shall read: "STANDPIPE IN TOWER," except on that story on which the emergency control valve is located, there the sign shall read: "STANDPIPE CONTROL VALVE NO. 0 IN TOWER."

Rule 66. VALVES NUMBERED.—All emergency control valves shall be numbered by means of a metal disc not less than 3 inches in diameter painted red with a white number not less than 2 inches high and shall be secured to wheel of valve by chain or metal clamp.

Rule 67. FIRE LINES PAINTED.—All standpipe lines not located within a stairway enclosure or public corridor and including the siamese connection street riser wall collars and caps shall be painted a Fire Department red.

Rule 68. SIAMESE CONNECTIONS FOR FIRE DEPARTMENT USE.—Each standpipe system shall be provided with one or more approved type 3 inch x 3 inch inlet siamese connections for use by the Fire Department as hereinafter set forth. When a building faces on but one street and has a frontage of less than 250 ft. and requires but one four (4) inch diameter standpipe riser one siamese connection shall be provided; where the street frontage exceeds 200 ft. in length and requires but two four (4) inch diameter standpipe risers two siamese connections shall be provided for each 200 ft. of street frontage or fraction thereof Buildings exceeding 250 ft. in height shall have not less than two siamese steamer connections for each riser and buildings not more than 250 ft. in height shall have at least one siamese connection for each 6 inch riser. Buildings having frontages on more than one street shall have a siamese connection on each street front when the frontage is not continuous but in all cases where more than one siamese connection is required they shall be properly distributed, and not grouped, as the Fire Commissioner may direct.

Rule 69. SIAMESE HEADERS.—Siamese headers shall be independent of each other and lead, as direct as practicable to riser or cross-connection header. There shall be at least 2 siamese for every 8-inch riser and at least 1 siamese for every 4 or 6 inch riser. Where there are more than one riser, the siamese headers shall divide on each side of any emergency control valve in the cross-connection, and such headers shall be equal in sum total to the sum total of all risers on either side of the emergency control valves.

No siamese header shall be larger than 6 inches. Siamese risers, when extending through sidewalk, shall be of bronze or fitted with a brass sleeve, packed with a waterproof compound between sleeve and riser.

Rule 70. SIAMESE OMITTED.—Any building, other than theatre with stage, not over 45 feet in height shall not be required to have a siamese connection except when such building is on a water-front or when it is one of a group of buildings and has a cross-connection to the standpipe equipment in one or more of the other buildings.

Rule 71. LOCATION.—Each siamese connection placed on the street front of a building shall be located not less than 18 inches and not more than 36 inches above the sidewalk level and shall be set in a horizontal position and shall be readily accessible for Fire Department use. Each siamese shall have cast in the body on top or on wall plate, in letters at least 1 inch in length and not less than ⅛ inch in depth, the word "STANDPIPE."

The piping connecting the siamese with the standpipe equipment proper shall be not less than 5 in. in diameter where there are two or more 4 in. risers and not less than 6 in. in diameter for risers of 6 and 8 in. diameter. When there is but one 4 in. riser, connection from siamese may be 4 in. in diameter.

Rule 72. SIAMESE CHECK AND DRIP.—In each line between the siamese connection and the standpipe system there shall be placed an approved type swing check valve located where practicable within 10 feet from the building wall. Between the siamese and its check valve there shall be placed a ¾-inch automatic ball drip of an approved type which will close under a pressure of not more than 7 lbs. per square inch.

Rule 73. SIAMESE CONNECTIONS FOR FIREBOAT USE, EXCEPT WHERE THE SOURCE OF SUPPLY IS FROM THE STREET MAIN DIRECT.—Siamese connection on piers or warehouses, etc., intended for fireboat use exclusively shall be 3½ in. x 3½ in. at inlets with Fire Department female thread. Between siamese and the system proper there shall be an approved type swing check valve, and between the check valve and the siamese either a ½-in. open drip without valve or cock, or a ¾-in. automatic ball drip of approved type closing under a pressure of not more than 7 lbs. per sq. inch. Where systems have both fireboat and shore siamese the shore siamese shall have male connections and shall be without clappers, but shall have on each inlet a 3 in. gate valve with Fire Department male thread for hose connection. Check valve shall not be provided for the land end siamese.

(To be continued)

Bridgeport Lumber District Threatened

The lumber yard district along the water front at Bridgeport, Connecticut, was threatened with serious damage by fire on March 7 when a can of lacquer became ignited in some unknown manner on the third floor of the Frank Miller Lumber Company on East Washington Avenue. The building being of wooden construction and containing finished interior trim woodwork including many mantles, doors, flights of stairs, door jambs and casings, was an easy prey for the flames that gained considerable headway before aid was summoned.

Fighting Fire in the Plant Where Finished Trim was Stored

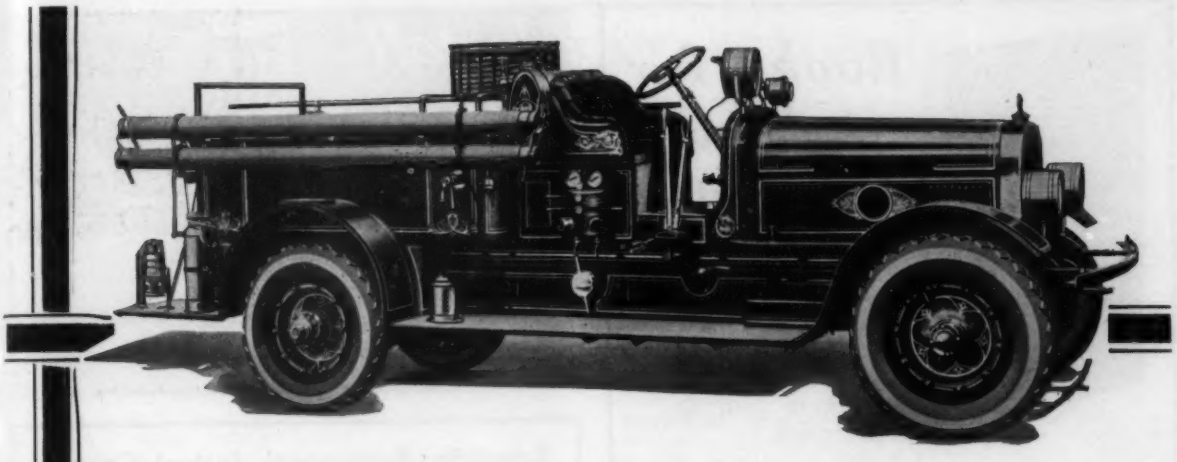
The fire alarm was received at 4:16 p. m. Engine Companies Nos. 1, 4, 5, 10 and 12 along with Chemical Company No. 1, Truck Company 2 and Truck Company 5 responded. The fire department immediately surrounded the burning structure with several lines of 2½ inch hose. Due to the brisk March wind that was blowing, the firemen had a two-hour battle before the blaze was extinguished. Assistant Chief Alex S. Miller of headquarters was in command from the beginning. Thomas F. Burns, chief of department, responded to the Miller plant from a smaller blaze in another section of the city which called the department out two minutes before the sounding of the alarm from the lumber company's plant. The loss to the building and contents is estimated at $25,000.

T. F. MAGNER.

Buckley, Wash., Wants Pumper—Firemen have urged the council of Buckley, Wash., to purchase a new pumper.

Dunn Renamed Fire Chief at Hettinger, S. D.—Mark Dunn has been named chief of Hettinger, S. D., for the eighteenth term.

Edgerton, Wis., Has New Apparatus—New fire apparatus for the protection of rural property has been placed in service in Edgerton, Wis.



8 Points of Seagrave Superiority

1. The Most Efficient

Seagrave Centrifugal Pumping Engines not only meet requirements of the National Board of Fire Underwriters, but they are guaranteed to exceed them. Seagrave Pumpers are guaranteed to deliver more water at higher pressures than any other.

2. The Most Modern

Only Seagrave Centrifugal Pumping Engines are equipped with all of the following features: Auxiliary cooling system, Automatic pressure regulator, Clutch locking device, Independent pump transmission, Enclosed pumping unit, One side pump control, Separate priming pump and seven bearing crank shaft.

3. Simplest to Operate

Seagrave Centrifugal Pumps are put into operation by the simple movement of one lever. There are no appliances that require the attention of an engineer.

4. Most Economical in Upkeep

The maintenance cost of an engine is much lower when driving a centrifugal pump. The engine is not subjected to strains and sudden shocks. Nozzles may be closed at will without injury to any part of the machine. The Seagrave Centrifugal Pump has but one moving part and will last for years.

5. Adds Life to Hose

Water from the Seagrave Centrifugal Pump is discharged in a steady, unbroken flow. This eliminates all pulsation and prevents chafing of hose lines, making hose last longer.

6. Safety for Hose Men

The Seagrave Centrifugal is the most flexible type of pumping engine. It will slip 100%. It will revolve with all discharge gates closed. The Seagrave pressure regulator makes it impossible to increase pressure above a pre-determined point, preventing a sudden rise in pressure at nozzle.

7. Gives Lasting Satisfaction

Seagrave Centrifugal Pumping Engines are the product of over fifty years of exclusive manufacturing of fire fighting equipment . . . are our own design and are thoroughly tested.

8. High Pressure Performance

Seagrave Centrifugal Pumping Engines are inherently high pressure engines. They successfully and easily respond to demands for higher pressure performance.

The SEAGRAVE Corporation

COLUMBUS, OHIO

Branch Offices at:

New York City	Philadelphia, Pa.	Birmingham, Ala.
Boston, Mass.	New Haven, Conn.	Kansas City, Mo.
Pittsburgh, Pa.	Dallas, Texas	San Francisco, Calif.
Chicago, Ill.	Seattle, Wash.	Los Angeles, Calif.

Books for Ambitious Fire-Fighters

They contain just the material that will insure your promotion and fit you for bigger work in your department.

What Every Fire-Fighter Should Know

Brimful of data covering the various phases of fire protection. A valuable 300-page fire-fighter's reference guide. $2.65 postpaid.

Simplified Fire Department Hydraulics

A complete course of instructions. Contains 200 pages, over 150 problems and solutions, and other practical information. $2.15 postpaid.

Questions and Answers for Lieutenant and Captain

Contains questions asked at civil service promotion exams in practically every city, and the answers. A 290-page book at $2.65 postpaid.

Questions and Answers for Battalion and Deputy Chief

Only book published giving detailed method of operating at large fires. 210 pages of valuable information at $2.15 postpaid.

Send Your Order Today

FIRE ENGINEERING, Book Department, 225 W. 34th St., N. Y. C.

Gentlemen: Money order (or check) for $..... enclosed. Please send me the following:

.....Copies of What Every Fire-Fighter Should Know at $2.65 each.

.....Copies of Simplified Fire Department Hydraulics at $2.15 each.

.....Copies of Questions and Answers for Lieutenant and Captain at $2.65 each.

.....Copies of Questions and Answers for Battalion and Deputy Chief at $2.15 each.

Name .....

Address .....

Scientific, Economical, Instant Connection of Hard or Soft Suction by

THE SHIFT COUPLER

Made to Fit Your Connections Can Be Demonstrated on Your Pumper Without Obligation.

30 Days' Free Trial on Request

National Standard Threadless Coupling Corp.

215-217 Beach 122 St., Rockaway Park, N. Y.

Quaker Fire Hose For High Pressure Service

The tough, specially-built inner tube and the sturdy, solid woven jacket, give Quaker Hose its unusual capacity to endure the strains of high pressures and rough handling.

Quaker Fire Hose bears the strong endorsement of fire officials throughout the United States.

QUAKER CITY RUBBER CO.

Offices and Factories
Wissinoming, Philadelphia

Branches: New York, Chicago Pittsburgh, San Francisco

The New Eastman Deluge Gun

The New Eastman Deluge Gun is a Portable Turret Pipe that can be used on the truck or ground, as may be desired. The stream can be operated in any direction by one man.

Samuel Eastman Co.
Concord, N. H.

FIRE DEPARTMENT ACTIVITIES

Center Moriches, N. Y., to Buy Apparatus—Center Moriches, N. Y., is considering the purchase of fire apparatus.

S. Glen Falls May Buy Apparatus—South Glens Falls, N. Y., is considering the purchase of fire apparatus for $10,000.

Santa Barbara, Cal., Rejects Bids—All bids for fire alarm equipment for Santa Barbara, Cal., have been rejected.

Auburn, N. Y., Opens Bids—Auburn, N. Y., has opened bids for the purchase of fire apparatus.

Buena Park, Cal., Organizes Fire District—Steps have been taken to form a fire district in Buena Park, Cal.

Girard, Pa., Buys Pumper—A new Reo truck equipped with a 400-gallon pumper has been purchased by Girard, Pa.

Winthrop, N. Y., Receives Pumper—Winthrop, N. Y., has received a 350-gallon Sanford pumper.

Chemical Engines Ordered for Townville—Two forty-gallon chemical engines have been ordered for Townville, Pa.

Sellersville, Pa., Opens Fire House—A $435,000 fire station was opened in Sellersville, Pa. A dinner was arranged to mark the event.

Course Planned for Hempstead, N. Y.—A course in fire-fighting methods is being planned for the truck company just organized in Hempstead, L. I., N. Y.

Two New Houses Planned for Knoxville—An emergency measure has been passed appropriating $60,000 for the purchase of land and the erection for two new fire houses.

Better Fire Alarm for Long Beach—Chief W. S. Minter of Long Beach, Cal., has urged that the city install a new and larger fire alarm system.

Ashtabula, O., May Buy Pumper—Ashtabula, Ohio, is considering the transfer of certain city funds so that the city can buy a 750-gallon pumper.

Five Men Added to Boston Fire Department—Five new men have been added to the Boston fire department. Fourteen men in the department have been transferred.

Forest Junction, Wis., Has Community Truck—Forest Junction, Wis., has acquired a community apparatus. It was purchased by farmers in the vicinity for $4,000 and will be housed in the village.

Firemen Save Only Thirty-Three Cents—A plea has been made to increase the pay of firemen in Evanston, Ill. It was pointed out that the firemen are paid $180 a month and can only save about thirty-three cents of that amount.

Commissioner Hultman on Vacation—Eugene C. Hultman, fire commissioner of Boston, has left for a vacation trip to the south, and in his absence, Chief Daniel F. Sennot is acting commissioner.

Fond du Lac, Wis., Tests New Pumper—The New 500-gallon pumper delivered to Fond du Lac, Wis., has been tested and placed in service. The pumper has a 40-gallon chemical tank.

Huntington, W. Va., Uses New System—The new $125,000 fire alarm system installed in Huntington, W. Va., has been placed in service. Work was started on this project last May. It is designed to care for the next forty years' growth of the city.

Lebanon County Firemen to Meet in June—Plans are being made for the annual convention of the Lebanon County Firemen's Association which will be held this year in Myerstown, Pa., some time in June.

Colfax, Raises Question of Authority—The question as to who runs the fire department has been raised in Colfax, Wash. Whether the firemen or the city council are to be in charge is being threshed out as the result of an argument.

Two New Houses Urged for Montgomery, Ala.—Chief Ingram of Montgomery, Ala., in his annual report, has recommended the construction of two new fire houses. At a recent election voters approved a $150,000 bond issue for department improvements.

More Equipment Urged for Plattsburgh, N. Y.—Chief Seymour of Plattsburgh, N. Y., has urged that the city purchase two pumpers, a chemical car and a ladder truck. It was pointed out that the department was not equipped to handle a fire that requires more than five lines of hose.

San Antonio Rejects Fire House Bids—San Antonio has rejected fourteen bids for the construction of Fire Station No. 13. The plans will be returned to the building department to see if some alterations can be made that would lower the building costs.

Chief to Recommend Four New Stations—Chief William B. Cody of Atlanta, Ga., is to recommend the construction of four new fire stations estimated to cost $200,000. The city is considering floating a large bond issue for this and other improvements.

Boston Relief Fund Receives Large Check—The Boston Firemen's Relief Fund received a check for one thousand dollars from the Edison Electric Illuminating Company in appreciation of the services of the department during the recent explosions on Summer street.

Department Donates Land to Town—The volunteer fire department of Newington, Conn., has deeded its land to the town with the stipulation that the land be used for a site for a fire station within six months from the time the deed is issued.

Paid Firemen Recommended for Reading—The National Board of Fire Underwriters, has recommended that a paid fire department replace the volunteer firemen in Reading, Pa. With paid firemen only ten of the present fourteen fire houses will be necessary. The question of a paid department has been discussed a number of times before.

Miller Named Assistant Chief of Spokane—Armin E. Miller has been named assistant chief of Spokane, Wash. He heads the list of fourteen captains that took the promotional examination for assistant chief. Miller was appointed to the fire department in 1909, was made a lieutenant in 1922 and a captain in 1924.

Mabry Chief at Rocky Mount, N. C.—George W. Mabry, formerly fire chief at Rocky Mount, North Carolina, has just been appointed chief of the Goldsboro, North Carolina, fire department. Chief Mabry was head of the Rocky Mount Department for many years, and resigned to accept the chieftancy of the Goldsboro organization.

Fire Prevention Bureau Urged for Minneapolis—A bill has been recommended for adoption that would provide for the establishment of a fire prevention bureau in Minneapolis, and which would make each person bear the expense of fighting a fire, if he was found guilty of the fire. The bureau would be under the control of the fire chief.

Here is a New Fire Hazard—A greasy rag lying near a glass bottle filled with gasoline almost started a serious fire in Mountain Valley, Ia. Pressmen working in the Times office, noticed the rag smoking. Sun rays shining through the window were concentrated by means of the bottle on to the rag. Globe aquariums have been known to do the same thing.

Inspection Bureau Trains Fire Departments—After a year of experimentation, the Michigan Fire Inspection Bureau has instituted a Division of Fire Department Training, as a regular feature. The work is in charge of J. W. Just. He visits villages and towns in the state and instructs paid and volunteer departments in the proper way to fight fires. It is believed that this move will result in lower fire losses for Michigan.

St. Louis Firemen Asks for Boost in Pay—The firemen's union of St. Louis, Mo., has filed an application with the Board of Estimate and Apportionment, for a $25 increase in pay a month for all city firemen. The question may be brought up at the April election. A similar request for a pay increase was refused last year. The last increase went through in 1925. At present firemen now receive $180 a month.

Utica Firemen Get Pay Increase—Members of the Utica, N. Y., fire department are to get increases in pay. The increase for deputy chief and chief inspector will be from $2,700 to $2,900; three deputy chiefs, $2,300 to $2,500; fifteen captains, $2,150 to $2,300; fifteen lieutenants, $2,505 to $2,200; superintendent of telegraph, $2,200 to $2,300; assistant telegraph superintendent, $1,950 to $2,050, and the mechanic, $2,200 to $2,300.

Iowa Has Lower Fire Losses—Fire losses in Iowa for 1928 were $1,030,309 lower than the total losses for the year previous, although there were thirty-five more fires. Included in the cities showing the greatest decrease in fire losses in the state are Cedar Rapids, Keokuk, Mason City, Sioux City, Council Bluffs, Clinton, Dubuque, Fort Madison, Fort Dodge, Oskaloosa, Ottumwa and Waterloo.

PROPOSED IMPROVEMENTS

Port Jervis, Orange Co., N. Y.—It is reported that bids will be received until 8 p. m., March 25th, for furnishing 1,000 feet of fire hose to city.

Roselle, Union Co., N. J.—Reports state proposal to purchase aerial ladder truck at cost of approximately 16,000 to be discussed at meeting of Borough Council.

Jefferson, Greene Co., Iowa.—An issue of fire station bonds will be voted upon at March election, according to reports. S. T. Jack, City Clerk.

Wilton, Franklin Co., Maine.—At recent election $10,000 was appropriated for construction of fire station.

Durhamville, Oneida Co., N. Y.—At recent election village voted in favor of a $12,000 bond issue for purchase of pumper for fire dept.

Oakville, Litchfield Co., Conn.—Movement has been started for forming of fire company, according to reports.

Inglewood, Los Angeles Co., Calif.—Reports state City Council was asked to place a $75,000 bond issue on the April 9 ballot for purpose of providing needed improvements to fire and police departments, including a modern fire and police alarm system.

Jenks, Tulsa Co., Okla.—An election is to be held in the near future to vote on fire equipment bonds, according to reports.

Franklin (P. O. Conemaugh), Cambria Co., Penn.—Two story fire station is to be erected here shortly.

North Providence, Providence Co., R. I.—Town to erect new fire station for Marieville Fire Co., according to reports.

For Sale
Copper Chemical Tanks

from modern Fire Dept. Apparatus. 50 gal. capacity. In perfect working order. Original cost $350 each. Will consider any reasonable offer.
W. E. Andrews,
City Pur. Agent,
Rochester, N. Y.

3-20,4-10,17

CONVENTION DATES

March 20—FIRE CHIEFS' EMERGENCY PLAN. Third Monthly Meeting, Fire Headquarters, Yonkers, N. Y. Secretary, Lieut. Revere, Fire Department, Larchmont, N. Y.

March 25-27—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 2nd Annual Convention, Shreveport, La. Secretary-Treasurer, Chief Tom Lyle, Okmulgee, Okla.

April 1-3—FLORIDA STATE FIREMEN'S ASSOCIATION. 4th Annual Convention, Key West, Fla. Secretary, F. C. Pfaender, Winter Haven, Fla.

April 11-13—ARIZONA STATE FIREMEN'S ASSOCIATION. 6th Annual Convention, Yuma, Ariz. Secretary, Chief W. J. Nemeck, Douglas, Ariz.

April 30-May 2—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Fire College and Drill School, Asheville, N. C. Secretary, John L. Miller, Concord, N. C. Chairman Arrangements Committee, State Fire Marshal Sherwood Brockwell, Raleigh, N. C.

May 13-16—NATIONAL FIRE PROTECTION ASSOCIATION (International). 33rd Annual Meeting Memphis, Tenn. Technical Secretary, Robert S. Moulton, 60 Batterymarch Street, Boston, Mass.

May 27-30—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 35th Annual Convention and State Firemen's Training School, Muskogee, Okla. Director of School, Chief J. E. Taplin, Blackwell, Okla. Secretary, Charles Slemp, 820 East 19th Street, Oklahoma City.

June—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. Tentative as to Conventions and first Fire School in Kansas, Newton, Kan. Exact date to be announced later. Secretary of both Associations, Chief K. D. Doyle, Wamego, Kan.

June—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 23rd Annual Convention, Binghamton, N. Y., (Tentative, as final arrangements have not been perfected). Secretary, Chief James H. Golden, Fire Department, Cohoes, N. Y.

June—SOUTH DAKOTA FIREMEN'S ASSOCIATION. 13th Annual Convention, and Tournament. (Tentative) Hot Springs, S. Dak. Secretary, M. C. Sullivan, S. Dak.

June 3-5—OHIO FIRE CHIEFS' ASSOCIATION. 12th Annual Convention, Sandusky, Ohio. Secretary, Chief PhilipI. Hardy, Fire Department, Youngstown, Ohio, Sheet and Tube Company.

June 7-8—DAUPHIN COUNTY FIREMEN'S ASSOCIATION. 11th Annual Convention, Harrisburg, Pa. Chairman Local Committee, W. L. Jauss.

June 10-12—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 24th Annual Convention, Columbia, S. C. Secretary, R. S. Hood, Sumter, S. C.

June 12-13—NORTHERN INDIANA INDUSTRIAL AND VOLUNTEER FIREMEN'S ASSOCIATION. 24th Annual Convention, Bremer, Ind. Secretary-Treasurer, Hugh Russell, Bluffton, Ind.

June 12-14—MARYLAND STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Lonaconing, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 15—LEBANON COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Myerstown, Pa. Secretary, William I. Kutz, Box 233, Myerstown, Pa.

June 20-21—EASTERN ASSOCIATION OF FIRE CHIEFS. 2nd Annual Convention, Hotel Pennsylvania, New York City. Secretary, T. Howell Johnson, Room 602, Chamber of Commerce Bldg., Newark, N. J.

June 22-23—SOUTHERN CALIFORNIA FIRE CHIEFS' CLUB. 2d Annual Convention, Ventura, Cal. Secretary-Treasurer, G. E. Zimmerman, Fire Department, Coronado, Cal.

June 24-28—AMERICAN WATER WORKS ASSOCIATION. 49th Convention, Hotel Royal York, Toronto, Ont., Can. Secretary, Beekman C. Little, Rochester, N. Y. Office of Association 29 West 39th Street, New York City.

June 25-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, Hotel Taft, New Haven, Conn. Exhibits, Second Regiment Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibits, Chief John S. Pachl, Annex Fire Department, New Haven; Traffic Manager, Geo. F. Cobb, Boston.

July 9-11—MICHIGAN STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Sault Ste. Marie, Mich. Secretary, H. L. William, Luddington, Mich.

July 9-12—DOMINION ASSOCIATION OF FIRE CHIEFS. 21st Annual Convention, Coburg, Ont. Secretary, Chief James Armstrong, Kingston, Ont.

July 10-11—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 9th Annual Convention, Wilmington, Del. Secretary, Sam H. Carson, Dover, Del.

July 15-16—MONTANA STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Butte, Mont. Secretary-Treasurer, D. E. Moser, Bozeman, Mont.

July 17-19—INDIANA FIREMEN'S ASSOCIATION. 12th Annual Convention, Gary, Ind. Secretary, Clem Smith, Fire Headquarters, Terre Haute, Ind.

August—IDAHO FIREMEN'S CONVENTION. Tentative, August or September, Idaho Falls, Ida. Secretary-Treasurer, Earl Heath, Idaho Falls.

August—MAINE STATE FIREMEN'S ASSOCIATION. 2nd Annual Convention (tentative, exact time to be announced later), Waterville, Me. Secretary, Earl E. Pratt, Fire Department, Auburn, Me.

August—UTAH STATE FIREMEN'S ASSOCIATION. 22nd Annual Convention (tentative, to be decided later), Tooele City, Utah. Secretary, Harris E. Anderson, Fire Headquarters, Salt Lake City, Utah.

Aug. 7-9—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Fullerton, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal.

Aug. 7-9—SOUTHWESTERN ASSOCIATION OF VOLUNTEER FIREMEN OF NEW YORK. Annual convention, Falconer, N. Y. Secretary, Royce Alden, Falconer, N. Y.

Aug. 16-17—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Plaza Theatre, East Hartford, Conn. Secretary D. W. Harford, South Norwalk.

Aug. 20-23—FIREMEN'S ASSOCIATION STATE OF NEW YORK. 57th Annual Convention, Saranac Lake, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 26-28—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Gallup, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

Aug. 28-30—VIRGINIA STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Lexington, Ky. Secretary, E. K. Landis, Pulaski, Va.

Sept. 3-5—KENTUCKY STATE FIREMEN'S ASSOCIATION. 1st Annual Convention, Ashland, Ky. Secretary, Captain S. G. Render, 303 Speed Bldg., Louisville, Ky.

Sept. 9-11—ARKANSAS STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Camden, Ark. Secretary-Treasurer, H. D. Compton, Central Fire Station, Little Rock, Ark.

Sept. 10-12—ILLINOIS FIREMEN'S ASSOCIATION. 42nd Annual Convention, Joliet, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 17-18—IOWA STATE FIREMEN'S ASSOCIATION. 52 Annual Convention, Red Oak, Ia. Secretary, E. E. Parsons, Marion, Ia.

Sept. 18-19.—MISSOURI ASSOCIATION OF FIRE FIGHTERS (Consolidated with former Missouri State Association of Fire Chiefs). Annual Convention, Jefferson City, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Sept. 20-21—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Atlantic City, N. Y. (Tentative date, to be definitely set later by Executive Committee). Secretary, William Exall, Room 602, Chamber of Commerce Bldg., Newark, N. J.

Oct. 1-3—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 50th Annual Convention, Hotel Roosevelt, Pittsburgh, Pa. Secretary, Charles E. Clark, P. O. Box 217, Wayne, Pa.

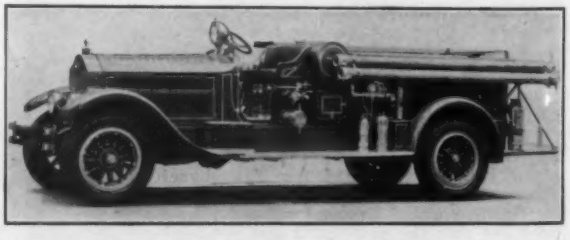
Oct. 22-25—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 57th Annual Convention, Hotel Tutweiler, Birmingham, Ala. Exhibits, City Auditorium. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 113 Merchants Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Selden R. Allen, Brookline, Mass.

New Trade Literature Received

The following literature descriptive of up-to-date methods and equipment for fire departments, has just been issued for general distribution, and can be procured by writing to the concern mentioned. Those desiring additional trade literature in which they are interested can use our regular "Information for Buyers" page, listed in the Advertising Index.

L. S. Brach Manufacturing Co., Newark, N. J.—Section 27-A; catalogue on lightning arresters for fire alarm systems; sixty-four pages and cover, illustrated.

Henderson & Co., Philadelphia, Pa.—Sixteen page illustrated catalogue showing the various style uniforms for firemen, shirts, belts, banners and other accessories.



Triple Combination Pumper Delivered to Dobbs Ferry, N. Y.

Dobbs Ferry, N. Y., has recently received a Type 75 triple combination American-LaFrance pumper of 750-gallon capacity. The apparatus is one of the more popular types manufactured by this company.

THROWS 600-FOOT BEAM (⅛ MILE)

A FAVORITE with the Fire Fighter

A Powerful Portable Electric Searchlight

The EXCELLIGHT is always ready, safe, powerful, economical and simple. It is moisture and waterproof, which eliminates short circuits and greatly increases the life of the batteries. The EXCELLIGHT is indispensable, especially around places where inflammable materials are stored or manufactured.

With ordinary use the batteries will last for many months and can be replaced at small cost. Batteries are standard.

DURABLE
SIMPLE
ECONOMICAL
WATERPROOF
NON-CORROSIVE
INDISPENSABLE

Used and endorsed by Fire Departments, Railroads and Police Departments. Always dependable.

Write for sample, full information and net prices.

THE NATIONAL MARINE LAMP CO.
Dept. F. Forestville, Conn.

Fire Chief Endorses "Shuredry" WATERPROOFED Salvage Covers

Chief J. R. Eldridge of the Johnson City, N. Y., Fire Department says, "We are still using your 'Shuredry' Salvage Covers and have been for several years. We find them the most satisfactory equipment of this kind we have ever used in our Department."

"Shuredrys" cost less, weigh less and are easier to handle than rubber covers. They do not crack when folded.

Write for samples and prices.

Fulton Bag & Cotton Mills

Manufacturers since 1870

Atlanta Dallas Brooklyn St. Louis
Minneapolis Kansas City, Kan. New Orleans

MATHEWS

(Reg. U. S. Pat. Off.)

FIRE HYDRANTS
for
DOMESTIC
and
HIGH PRESSURE
Service

NOTE—

The positive waste valve.

All operating threads are dry, being above the stuffing-box.

No toggles, no small, quick-wearing parts.

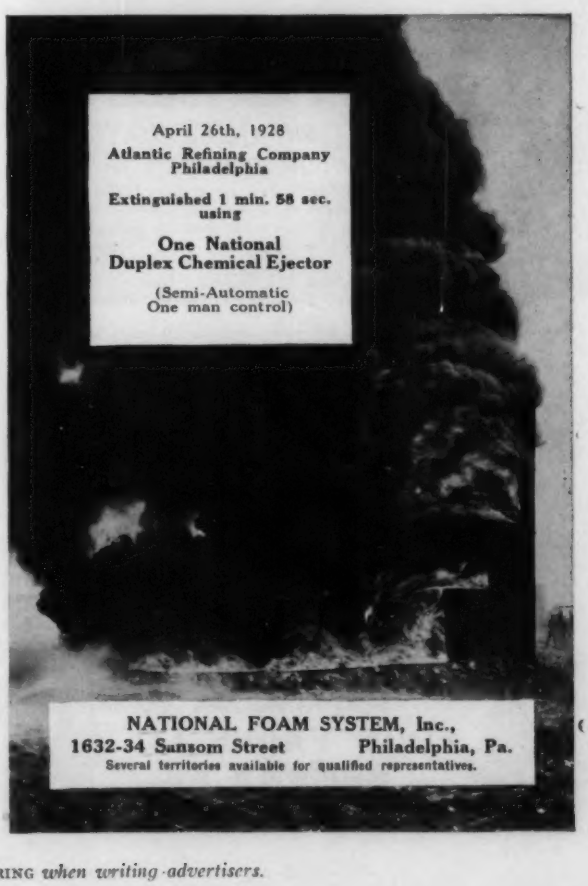
All moving parts are bronze or bronze-bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

An easily installed
EXTENSION SECTION
readily adapts them to new grades.

VALVES and BOXES
CAST IRON PIPE
(Sand-Cast or "Sand-Spun")
FITTINGS

R. D. WOOD & CO., Phila., Pa.



NATIONAL FOAM SYSTEM, Inc.,
1632-34 Sansom Street Philadelphia, Pa.
Several territories available for qualified representatives.

VAC-M Arresters Will PROTECT

Your Fire Alarm

against the ravages of lightning, sneak currents, static, and kindred electrical disturbances.

Don't accept our opinion, but let us refer you to Fire Alarm Superintendents who now have VAC-M's in service. Obtain their experiences direct.

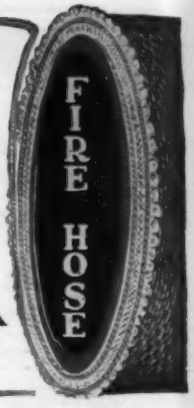
Want the Facts?

The National Electric Specialty Co.
Toledo, Ohio

Baker Fabric

A mass-woven jacket of exceptional pliability. The rubber lining is reinforced to flatten without breaks or pin holes. Write for details.

MANUFACTURED EXCLUSIVELY BY
HEWITT - GUTTA PERCHA
RUBBER CORPORATION
BUFFALO, N. Y.
(Also makers of single and double jacket hose)



Le Baron Air Whistles

The most dependable whistle for fire departments. In use in over 75 fire departments and still going strong.

WE ARE STILL IN BUSINESS

Have you a Blanchard Angle Nozzle?

ARTHUR H. BLANCHARD
25 Hampshire Street :: Cambridge, Mass.

Fire Alarm Signals
Water Meters
Compounding Valves
Stops
Water Pressure Regulators

Presses for Lining Service Pipe with Cement

Union Water Meter Co., Worcester, Mass.
Incorporated 1868

NEW YORK
FIRE DEPARTMENT
EXAMINATION QUESTIONS
By J. W. HEFFERNAN
Deputy Chief of Department

Containing *Everything* the man seeking promotion may be asked, and The Answers.

2 volumes, Cloth, Over 775 Pages. Many Charts, $10.00. Immediate Delivery. Send check or money order, to

DUFFIELD AND COMPANY
200 Madison Avenue, New York, N. Y.

BI-LATERAL FIRE HOSE

THE BI-LATERAL FIRE HOSE CO.

Canal St. Station
110 North Franklin St.
Chicago, Ill.

The only change made in constructing the rocker lug coupling is
1. That it must be made of the very highest grade metal composition.
2. Adding a little more of the bronze metal to each side of the pin lug so that the couplings will ride without catching.

If this is not an improvement, why?
The Bi-Lateral Fire Hose Co. is using the rocker lug coupling as standard equipment because it is better for the hose and makes a fire department more efficient.

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

JOHN H. CLAY, INC.

1320 Ridge Ave., Philadelphia, Pa.
Established 1864

Clay Automatic Door Opening Devices for Fire Station Doors Opening either In or Out. Save valuable minutes in getting to fires. Send for Bulletin.

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

GOOD ROADS BRING BETTER FIRE PROTECTION TO RURAL SECTIONS

Michigan Far in Lead in Practising Rural Fire Protection—Better Highways Makes Most Farms Accessible to Municipal Fire Departments

By M. Cook*

NOT many years ago, practically every farm owner knew that a fire on his farm meant the total destruction of his buildings. He realized that it was impossible for him to have the benefit of fire protection, as road conditions were such during the major portion of the year that fire apparatus could not get to his farm even if any were available nearby for that purpose. How different this is today in many sections. With the building of improved roads, one of the chief benefits that might be termed a by-product of the good roads movement is the great reduction in loss through fires on our farms. Michigan is one of our leading states in practising rural fire protection. There are now more than eighty installations of fire apparatus, the prime purpose of which is the protection of rural districts. Ohio has more than fifty installations of what are termed: "Community Apparatus." Illinois has nearly fifty; Wisconsin has about forty, and Indiana has about twenty. Iowa is getting well started and has nearly twenty community fire trucks. A few of our other states are making progress along this line.

This rural fire protection has only been made possible by reason of our good roads. A telephone call for the rural fire apparatus will bring it to the fire nearly as quickly as a fire truck can answer a fire call in the outlying districts of any town or city, and at that the rural trucks are not driven at excessive speeds. When you realize that the trucks are invariably given the right of way on country roads, you can appreciate that it only takes twelve minutes to go eight miles driving forty miles an hour and the apparatus is ready for immediate fire fighting as soon as it reaches the fire. That is as quickly as a truck can go a couple of miles in the city and hook up to the hydrant and be ready to turn on water.

The big problem in connection with providing rural fire protection is the procuring of apparatus and arranging and maintaining and operating it. At most recent state firemen's conventions, the paramount subject for discussion was how to handle calls to fight fires in the country. A great many of our towns have only one piece of apparatus and there is risk of letting that one piece leave the corporate limits. There have been damage suits started by property owners who were taxpayers in the town and who suffered fire loss with no apparatus available because the only fire truck was on a country run. The fire chief and his boys do not want to turn down any call from a farmer whose buildings are on fire, but they are governed by local ordinances, insurance rulings, and in other ways. Laws have recently been enacted in a few of our states that provide means for procuring rural fire apparatus, but this is only true in a very few states.

There are a few fire apparatus manufacturers who have developed plans whereby community apparatus may be obtained, these plans varying with the different companies, but all being based on the town paying a portion and the farmer subscribing towards the purchase price of the apparatus. A committee of the National Fire Waste Council is now endeavoring to formulate what they consider to be an ideal law that will provide a means whereby apparatus can be obtained for rural fire protection and it is hoped that this law can be prepared in time to introduce into the various State Legislatures that will be in session this winter.

Insurance can be carried, but the losses on rural risks have been so heavy that a great many companies have discontinued writing that kind of business. In communities where apparatus is available for fighting rural fires, the experience of the mutuals operating in those districts has been a considerable reduction in losses and, therefore, a considerable reduction in the cost to each insurer. A great many instances can be cited of the effectiveness of rural fire apparatus and the dollars and cents saving in various communities; however, this can all be summarized in the statement that has been made after thorough investigation that in no instance where rural apparatus is available has a farm fire ever spread beyond the one building, and in every instance where the call has come in quickly for the apparatus, the loss has been kept within the insurance carried.

There can be no greater farm relief than cutting down the farmer's fire losses, which is possible by the organization of rural fire companies whose services can now be so very effective by reason of our improved system of highways open the year round.

* Vice-President, Boyer Fire Apparatus Co. From article in Manufacturers' Record.

Overhauling Hay and Cotton Fires

The common practice in the past has been, when overhauling hay and cotton fires, to open up the bales to get at any fire remaining.

Apparently this method is losing in popularity.

It has been found that where fire has entered a bale of cotton, it can be completely extinguished within the bale by inserting a small nozzle in the hole which the fire has made and letting the water flow for a moment or two.

Fire, when entering a bale of cotton, usually leaves a hole which can be quickly found on the outside of the bale.

When employing this method for overhauling cotton, each bale is rolled over face by face and each face is inspected. A little prodding with the handle of an axe, a piece of wood, etc., will quickly determine whether or not fire has burned its way into the bale.

Bales of Hay At Overhauling by Old Method. Notice How Hay Expands When Wires Are Broken. The Same Thing Applies to Cotton

The same applies to hay, although in the latter case it is rather rare for fire to enter the bale leaving the outside practically untouched. In other words, fire has not the tendency to burn into, and within, the bale while the outside remains intact.

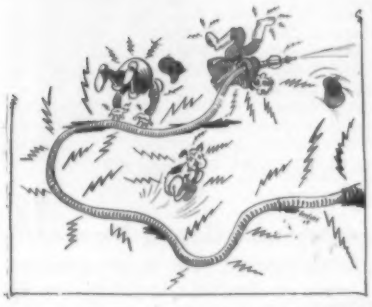
In overhauling hay bales, it is quite a simple matter to roll the bale over and quickly inspect its surface. In this way it is made certain that each bale is safe before passing on to the next.

Connell, Wash., to Have Apparatus—Funds have been raised for a new fire unit for Connell, Wash.

Bandon, Ore., Organizes Department—A fire department has been organized in Bandon, Ore., with Al Mosher, chief. Fire apparatus has been delivered.

Henricks, Minn., to Buy Farm Fire Equipment—Funds are being raised in Hendricks, Minn., for the purchase of apparatus for the protection of the rural sections. A chemical car will be purchased.

FALSE ALARMS



—Drawing by "Art" Espey

A Charged Line

WHERE THEY ERRED

Out in the big open spaces where when things are done, they are done properly, the firemen had a reputation for staging some very wild parties, at times. That is why when a certain fireman went calling his host asked him:

"I wonder if what I hear is true—that the fireman's life here is mostly, wine, women, and song."

"Naw, don't you believe it," was the reply. "You very seldom hear singing in the dormitory."

Don't ever believe that autos are ruining the younger generation. It is the other way around.

NOT ALARMING

The new girl who had been operating the department switchboard for the past month, resigned from her job. Of course, any one would notice when an attractive girl left.

"Why did she leave? Is she going to get married?"

"No. She said that she was not used to the language coming over the wire."

"Holy Mackerel! Does she expect to fool around with electricity and not get shocked?"

TRUE TO FORM

Strange to say, a certain fire apparatus salesman arrived at the Pearly Gates. But St. Peter was on hand to say that the quota for such salesman was filled. There were three such men present and as long as they remained, no new arrivals could enter.

But being a resourceful salesman, an agreement was made with St. Peter that if one inmate could be induced to leave, the new arrival could enter.

Luckily, all three former competing salesmen arrived at the gate and after lying about things in general, the new candidate said:

"You guys are sure asleep. Don't you know Hades is receiving bids on seven pieces of apparatus tonight?"

And after the three salesman had left for Hades, the other entered.

But as he was learning to play the harp, he did not appear to be happy. St. Peter asked why he was not enjoying himself. The new inmate answered:

"By golly, chief, I got to get out of here. Maybe after all there is some truth about Hades being in the market for engines."

Spring may mean romance to some, but to many it merely means more sulphur and molasses.

FREQUENTLY ASKED

Craving additional excitement, the newly appointed head of the department got married. He had heard that a certain apartment in the same section where his assistant lived, was vacant.

"Do they ask a lot for the rent of that apartment?" he asked.

"Well, they asked the last tenant about four times a month."

GUESS AGAIN

There has been a shift in station assignments and some new men were stationed at Engine No. 7. There was considerable calling of "Hey" while the men were getting acquainted.

"Hey, Joe, what time is it," asked one.

"How'd you know that my name is Joe?"

"Oh, I just guessed it."

"Well, guess the time then."

There is one difference between being a golf enthusiast and a fire department chauffeur. In golf you hit nothing and in the other sport, you hit everything.

A CIVIC HOLIDAY

When two girls are in love with the same man, then a bystander can expect to hear some very caustic remarks. And when the boy in question has a uniform, and is good looking, and has had his picture in the newspaper for fire rescue work, it is not difficult for a girl to fall in love.

In a boastful way one girl said, "Two weeks ago I refused to marry Freddy and he's been drunk ever since."

To which the other made the stinging remark:

"That boy never did know when to stop a celebration."

PROPERLY EDUCATED

A drill master had his own idea of bringing up children. Wishing to teach his young son an unforgettable lesson, he placed his child on top of the bookcase and told him to jump into his arms.

"But Papa, it's too far," replied the youngster. "I'm afraid."

"Do you want Papa to spank you? Jump into Papa's arms. Come on! Jump to Papa!"

The child finally decided to jump. But just as the boy leaped, the father stepped aside and the youngster fell on the floor.

The father said triumphantly, "That'll teach you never to trust any one."

QUALIFIED

A salesman who would not take no for an answer was trying to sell fire apparatus. The representative of the city was trying to make a graceful exit. He said:

"I don't exactly like the looks of this machine from the front."

The salesman replied, "But look at the back. It looks good from that view, doesn't it?"

"Yes— but—"

The salesman continued, "Well, that's all anybody'll ever see of this car."

What Scotland needs is a good five cent box of cigars.

—Drawing by "Art" Espey

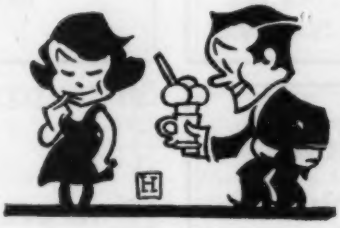
The Longest Way Around Is Often the Shortest

Station KQW is more than a broadcasting station. One afternoon, someone 'phoned the station to say that a certain home was on fire and that the owner was somewhere downtown and could not be located. At that time the W. K. Sunshine Program was "on the air." A clerk in a radio store while demonstrating a set, tuned in KQW. The rest is obvious. Of course the owner happened to be in the store at the time, and he rushed home to supervise the salvage work.

Your Catalog Page

Fire Prevention Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Caps, Firemen's.
23 Chains, Non-Skid Fire Apparatus.
24 Chassis for Fire Apparatus.
25 Chemical Engines and Tanks.
26 Chimney Cleaning Compounds.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment, Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Fire, Soda & Acid.
35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
37 Extinguishers for Chimney Fires.
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
41 Fire Exit Devices, Door Opening.
42 Fire Alarm Posts.
43 Fire Escapes, Portable.
44 Fire Escapes, Rigid.
45 First Aid Equipment.
46 Flare Lights.
47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
51 Gasoline & Oil Handling Equipment.
52 Goggles, Firemen's.
53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.



Help Yourself!

This page is here to make it *convenient* for you to get complete specifications and prices from *reliable* manufacturers of equipment needed for your department. It is *your* page to use freely without any obligation.

To get the information you want, just mail in the coupon below with your name and address and numbers that indicate the equipment listed below on which you would like descriptive literature.

We will then notify reliable manufacturers of your interest in such equipment and request that they send you complete information. They will gladly do this and it will be a pleasure for us to help you in this way. No charge whatever! Help yourself!

Fire Protection Equipment and Supplies

55 Hose Clamps.
56 Hose, Fire.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
60 Hose Standardization Tools.
61 Hydrant Draining Pumps.
62 Hydrants, Fire.
63 Jacks for Fire Trucks.
64 Jacks, Shoring & Prying.
65 Ladders, Fire.
66 Lightning Arresters.
67 Motorcycles, Fire Dept. Equipped.
68 Nets, Life.
69 Nozzles, Pipes & Misc. Brass Goods.
70 Packings, Pumps.
71 Pads, Pole Hole.
72 Paints, Fire Resisting.
73 Priming Ether, Motor.
74 Pumping Cars, Standard.
75 Pumping Cars, Foam.
76 Pumps, Fire Apparatus.
77 Pumps, Fire Service, Stationary.
78 Pumps, Portable, for Fire Protection.
79 Record Books, Fire.
80 Relief Valves.
81 Reviving Apparatus, Oxygen.
82 Rubber Clothing.
83 Searchlights.
84 Shingles, Fire Retardant.
85 Shirts, Firemen's Special.
86 Sirens, Apparatus & Chiefs' Cars.
87 Sliding Poles.
88 Soda & Acid Chemicals.
89 Spark Plugs, Fire Apparatus & Motorcycles.
90 Squad and other Auxiliary Cars.
91 Sprinkler Head Shut-Offs.
92 Sprinkler Supervisory Service.
93 Sprinkler Systems, Automatic, Foam.
94 Sprinkler Systems, Automatic, Water.
95 Starters, Fire Apparatus, Automatic, Air.
96 Steam Fire Engines.
97 Tarpaulins & Fire Blankets.
98 Tetrachloride Chemicals.
99 Thawing Equipment, Hydrant.
100 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
101 Tractors.
102 Traffic Clearing Systems.
103 Triple Combination Pumping Cars.
104 Uniforms.
105 Water Towers.
106 Wheels, Cushion.
107 Whistles, Fire Alarm, Compressed Air.
108 Whistles, Fire Alarm, Steam.
109 Whistles, Fire Apparatus.
110 Wrecking Trucks.

---TEAR OFF HERE---

FIRE ENGINEERING, 225 West 34th St., New York City.

As a fire protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the following numbers:

Date.....

Nos..... .....

Nos..... .....

Nos..... .....

Nos.....

Name.....

Position.....

Street.....

City and State.....

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet.

3-20

New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment

New 43 Edition Catalog on Request

The Woodhouse Mfg. Co., Inc.
156 Chambers St., New York

D. A. Woodhouse, Pres. and Gen. Mgr. — George J. Kuss, Vice Pres. and Treas.

COREY

Hydrants as manufactured by "Rensselaer" are being used to fight fire in every State of the Union. Made of the very best material and workmanship.

"The Rolls-Royce among Fire Hydrants"

RENSSELAER VALVE CO.,
TROY, N. Y.

Triple Combinations

300-350 and 500 Gallons Capacity

Light and Heavy Hook and Ladder Trucks.
Miscellaneous Fire Fighting Equipment.
Fire Department Ladders.

Write us when interested

COMBINATION LADDER CO., Inc.
381 Fountain St. Providence, R. I.

when!

You are interested in Fire Fighting Equipment consult:

BOYER

Builders of equipment to meet your requirements. Specializing in Apparatus for Rural Fire Fighting.

BOYER FIRE APPARATUS COMPANY
Logansport, Indiana

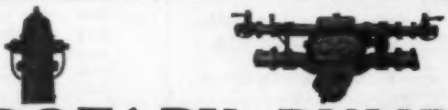
The High Efficiency of HALE Rotary Pumps is due to:

1 The form of the patented Rotor Tooth.
2 Automatic Packing.
3 Four bearing pump shafts.
4 Stainless steel pump shafts.

The design of Hale pumps has been perfected through fifteen years of active experience, and has resulted in a rugged, highly efficient product.

HALE FIRE PUMP CO., INC.
CONSHOHOCKEN, PA.

Manufacturers of Rotary Fire Pumps.



ROTARY PUMPS
FIRE HYDRANTS
FIRE APPARATUS

Waterous Dependable

Send for our Complete Catalog
Agents in Principal Cities

WATEROUS COMPANY
St. Paul, Minnesota

MAXIM

All Types

All Sizes

MAXIM dependable equipment gives the service demanded of MAXIM apparatus.

Send for complete information

MAXIM MOTOR COMPANY, Middleboro, Mass.
Metropolitan Sales Agents:
The Woodhouse Manufacturing Co., 156 Chambers St., N. Y.

MORSE

FIRE BOAT EQUIPMENT
Invincible and Callahan Nozzles

Fire Department Supplies

are in use throughout the country and giving unsurpassed service.

Every fire official should be fully acquainted with Morse equipment and have our catalog and other descriptive literature on file for ready reference whenever considering the purchase of new equipment.

You will find that it pays.

Write for Catalog

Andrew J. Morse & Son, Inc.
221 High St. Established 1837 Boston, Mass.

ADVERTISING INDEX

Advertising Pays—in Fire Engineering

	PAGE
Ahrens-Fox Fire Engine Co.	221
American Fomon Company, Inc.	248
American-La France & Foamite Corp.	*Inside Front Cover*
American Steam Pump Co.	225
Bi-Lateral Fire Hose Co.	252
Blanchard, Arthur H.	252
Boyer Fire Apparatus Co.	256
Braxmar Co., C. G.	244
Buffalo Fire Appliance Corp.	244
Clay, Inc., John H.	252
Combination Ladder Co.	256
Darling Valve & Mfg. Co.	222
Duffield & Co.	252
Eastman Co., Samuel	248
Eddy Valve Co.	252
Eureka Fire Hose Mfg. Co.	*Back Cover*
Fabric Fire Hose Co.	*Front Cover*
French & Hecht	258
Fulton Bag & Cotton Mills	251
Hale Fire Pump Co.	256
Hewitt Gutta-Percha Rubber Corp.	252
Information for Buyers	**255**
Maxim Motor Co.	256
Morse & Sons, Inc., Andrew J.	256
National Electric Specialty Co.	252
National Foam System, Inc.	251
National Marine Lamp Co.	251
National Standard Threadless Coupling Corp.	248
Northern Pump Co.	226
Pirsch & Sons Co., Peter	*Inside Back Cover*
Quacker City Rubber Co.	248
Rensselaer Valve Co.	256
Seagrave Corp.	247
Signal Shirt Co.	224
Stanley & Patterson, Inc.	219
Sterling Siren Fire Alarm Co.	223
Union Water Meter Co.	252
Waterous Company	256
Waukesha Motor Co.	243
Wood & Co., R. D.	251
Woodhouse Mfg. Co.	256

When Ordering New Equipment

Patronize the Manufacturers You Find Listed Above

They are leaders in their respective lines and are in position to take the best possible care of your requirements.

The fact that they are using advertising space in FIRE ENGINEERING indicates they want your inquiries and will be glad to submit specifications and prices without placing you under any obligations whatever.

They are ready and anxious to serve you courteously in every way possible. Be sure to write them for complete information when considering new purchases — and place your orders with them.

They are helping us make the paper better by their advertising. You can help them and help us and help yourself by giving them your business. Let's all pull together! All will benefit.

The Publishers

For Greater Dependability

Modern Extinguishers are equipped with French & Hecht Wheels

HERE is the Pyrene Manufacturing Company's Phomene Extinguisher equipped with French & Hecht Steel Wheels. Leading makes of wheeled equipment in all industries are invariably equipped with French & Hecht Wheels.

French & Hecht Steel Wheels for fire engines, hose carts, barrel carts, trucks, wheelbarrows and all other wheeled equipment are lighter and stronger. These wheels are made in large quantities in the most efficient factory in America specializing in steel wheels.

The vast experience and facilities of this organization enable it to solve any wheel problem —producing a wheel that is mechanically correct for every purpose and every machine—at a lower cost than is possible in the average factory producing the machine itself. Any information concerning wheels will be gladly supplied. Write.

Each spoke is forged in the hub while hot, forming a head on the inside and a shoulder on the outside, similar to a boiler rivet.

The spokes are expanded in the rim with shoulders on the inside and the ends are riveted on the outside.

There can be no other Steel Wheels like French & Hecht because the essential features of construction are exclusively French & Hecht.

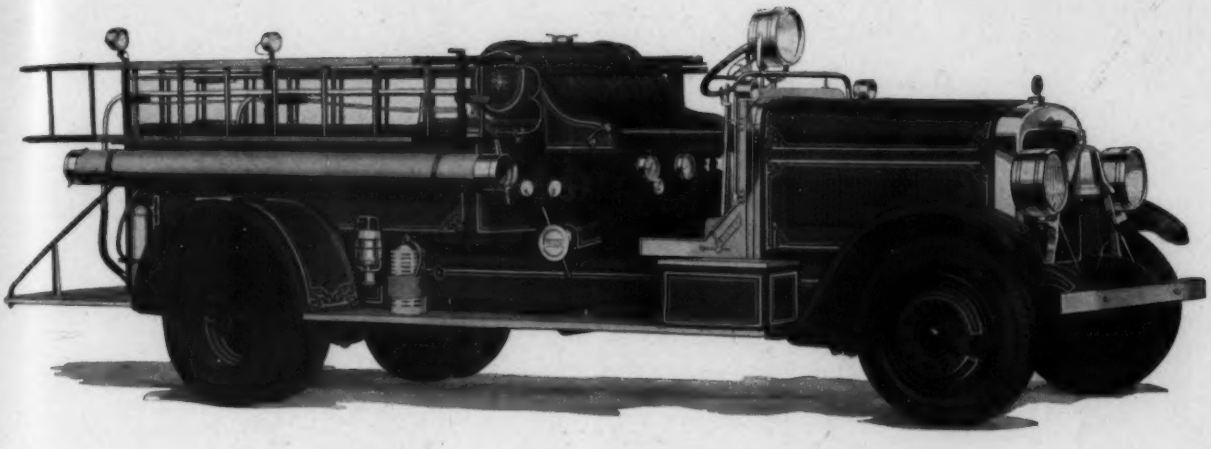
FRENCH & HECHT, Inc.

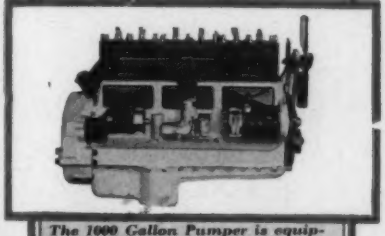
Wheel Builders Since 1888

DAVENPORT, IOWA SPRINGFIELD, OHIO

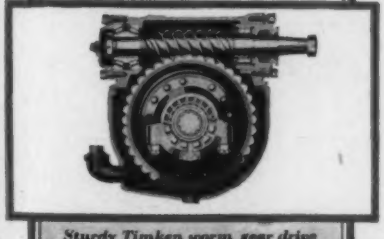
FRENCH & HECHT

STEEL WHEELS

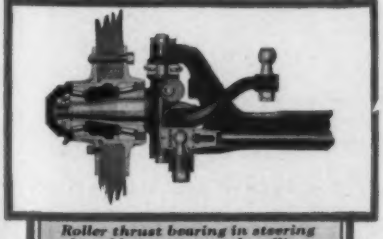




The 1000 Gallon Pumper is equipped with this sturdy 130 H. P. 6 cylinder motor.



Sturdy Timken worm gear drive mounted in roller bearings.



Roller thrust bearing in steering knuckle insures easy handling of all Pirsch machines.

PIRSCH

EST. 1857

Announcing

A New 1000 Gallon Pumper

NOW A new 1000 gallon pumper is included in the Pirsch Line of fire fighting apparatus. This new engine is the most highly developed fire fighting apparatus available.

The unusual efficiency of this new unit was demonstrated in the Underwriters twelve hour test which was completed with a perfect score. The engine was started at 10 degrees below zero and pumped continuously for the required time. At the completion of the test the throttle was pulled open —the pump delivered over 1300 gallons per minute with a net pump pressure of 127 pounds from suction—practically one third excess capacity.

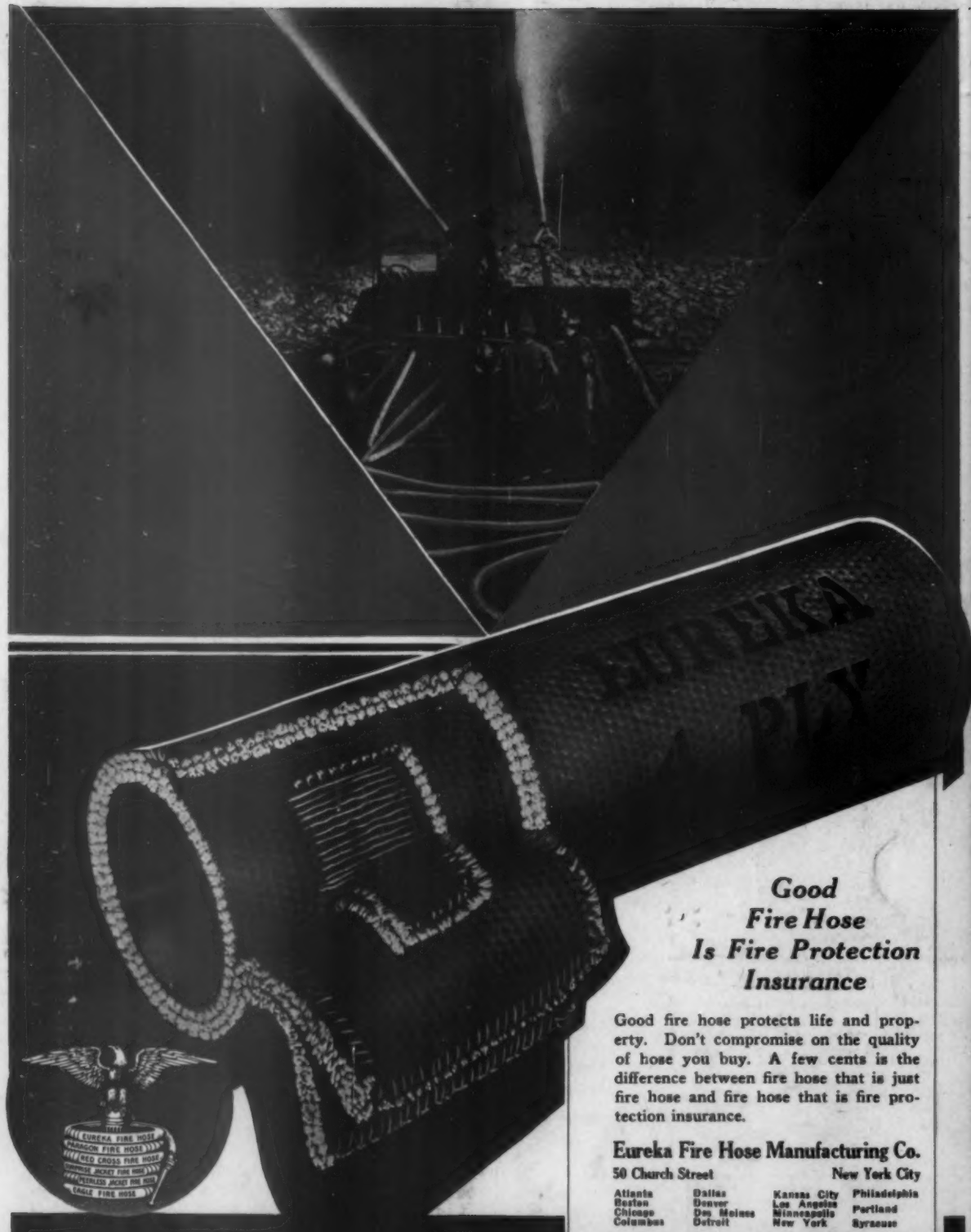
Power—strength and dependability are outstanding features of this new 1000 gallon pumper. The motor is 130 horse power, with a crankshaft 3½ inches in diameter. The frame is chrome nickel steel, heat treated. The pump has force feed lubrication. A special Pirsch, mushroom type air dome, reduces vibration while pumping to a minimum. Dual rear tires and four wheel hydraulic brakes assure maximum dependability under all conditions.

This new unit is the largest Pirsch Engine made, heading a complete line of ladder trucks and engines of 500—600—750 and 1000 gallon capacity. Full information on the Pirsch Line will be mailed on request. Write.

PETER PIRSCH & SONS CO.

Factory and Home Office
Kenosha, Wis.

Eastern Office
5 Beekman St., New York, N.Y.



Good Fire Hose Is Fire Protection Insurance

Good fire hose protects life and property. Don't compromise on the quality of hose you buy. A few cents is the difference between fire hose that is just fire hose and fire hose that is fire protection insurance.

Eureka Fire Hose Manufacturing Co.

50 Church Street — **New York City**

Atlanta	Dallas	Kansas City	Philadelphia
Boston	Denver	Los Angeles	Portland
Chicago	Des Moines	Minneapolis	Syracuse
Columbus	Detroit	New York	

EUREKA FIRE HOSE

PRINTED BY THE WILLIAMS PRESS, ALBANY, N. Y.